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Containing an Industrial Lighting Supplement

VOL. X. NO. 1

$1.00 A YEAR

AUGUST, 1911

SELLING ELECTRICITY

A Magazine of Commercial Methods for Electrical Men

Published by THE RAE COMPANY, 17 Madison Ave., New York

RESIDENCE LIGHTING

will be the live issue after September 15th. Vacations will be over, the days shortening perceptibly and the central station will begin the fall campaign for Residence Lighting business.

That is why the September number of

ELECTRICAL PROGRESS

will be a Residence Lighting Issue. It will be ready for you on September 1st, in plenty of time to get it into the hands of your prospects at the right moment. It will talk to your customers for you more fully and more appealingly than your salesman can. You see it is apparently a little independent magazine; it incurs no prejudice; it is bright and there are lots of pictures. People read it because it's interesting and instructive. They believe what is in it, because it's not an obvious advertisement but an independent magazine.

Get your residence list in shape now, and send the Residence Lighting Number of ELECTRICAL PROGRESS to every home.

It is both cheap and effective.

Published by

THE RAE COMPANY

17 Madison Avenue, New York City

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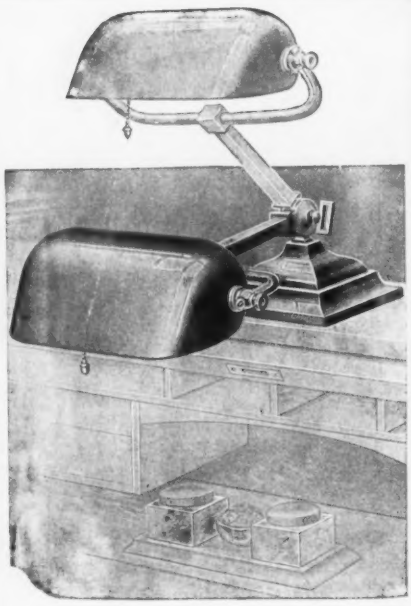


The

EMERALITE

DESK AND PIANO LAMP

WITH

Green Glass Shade

A wonderfully artistic electric desk and table light. The new idea "Emeralite" shade makes these lights more attractive and more adapted to office use than any other light made.

"KIND TO THE EYES"

The shade is of rich green glass outside, and pure white opal glass inside. Gives a subdued, restful, emerald light above, and focuses a bright light on desk or table top. It is not affected by heat or cold, and does not tarnish or scratch. Its smooth surface prevents collection of dust, and always throws down the light where wanted.

The arm and base are finished in dull brass or statuary bronze—conforming to any office equipment.

We make the "Emeralite" in many styles—for roll or flat top desks, also for home use on pianos, etc.

We cannot do justice here to the "Emeralite"—its beautiful coloring, etc., but we have a BOOKLET which shows colors, gives prices and description, etc. Write us and we will send it free.

H. G. McFADDIN & CO.
43 Warren St., New York

"American" Electric Ironing

Here is the yo
iron on the marke
by the oldest manufact
electric heating devices.
new iron is known as

"American Beauty"

weight is 6½ pounds—therefore suitable for all round household or laundry use.

It is all that the name implies. Finished entirely in polished nickel and of attractive design it first pleases the eye.

It is simple in construction—can be entirely taken apart or assembled with no tools but a wrench.

Efficiency and satisfaction to the user it has—beyond any iron yet made.

Guarantee—So durable and strong is it that it is guaranteed for three years.

Learn more about it by ordering a sample—at least. Knowledge of it means you will want it for your customers.

American Electrical Heater Co.
1351 Woodward Ave.
Detroit, U. S. A.
Oldest and largest exclusive makers.

AMERICAN ELECTRIC HEAT

IN FLY-TIME

Buckeye Drawn Wire "Mazda" Lamp

The Buckeye DRAWN WIRE "Mazda" is the "last word" in incandescent lamp development. The ductile metal filament has remarkable strength and its ruggedness and dependability make it practical for almost any service.

The service of the Buckeye Electric Company is as satisfactory in August as in January.

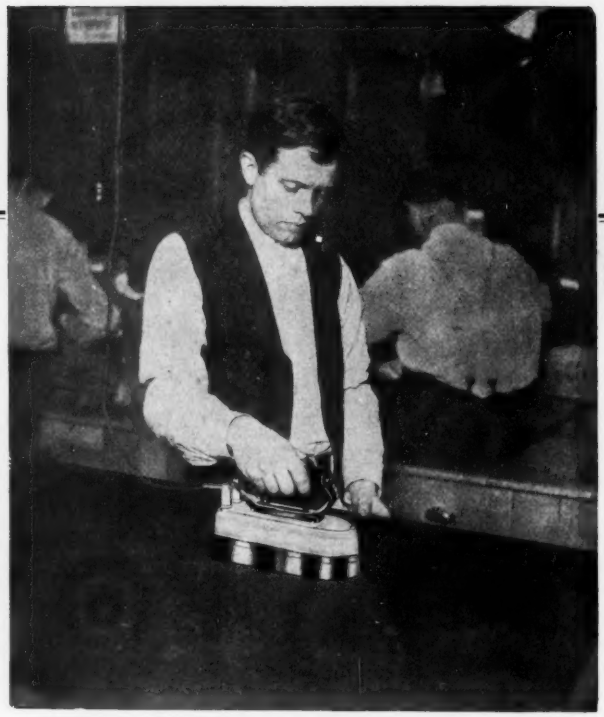
"Summer complaints" are unknown in our organization. We realize that an ounce of exasperation will neutralize a pound of advertising, and we make it our first business in hot weather to render the kind of service that eliminates heat and friction.

If you want to know just how good it feels to get this kind of service, send you next order to——

THE BUCKEYE ELECTRIC CO.

CLEVELAND

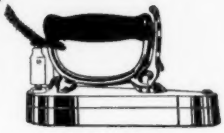
CHICAGO - PITTSBURG - DALLAS - BOSTON



Cutler-Hammer Tailor's Goose Iron in a Chicago Clothing Factory

Household Iron—5, 6, 7 lbs.
No separate stand required.

All Year Load



3-lb. Sleeve Iron.
Detachable Handle.
Convenient for travelers.

Most irons are sold during spring and summer. Why not handle irons that will sell and be used at all parts of the year.

CUTLER-HAMMER IRONS

have features that make them attractive at all parts of the year.

A user is unwilling to iron by other methods. Cutler-Hammer Irons are *not* laid aside in winter.

They are a year-round load for the central station.

An installation of Cutler-Hammer Goose Irons insures the very best kind of central station load. They are efficient and convenient for the user and good business for the central station.

Cutler-Hammer Disc Stove

provides a quick, clean way of performing the simpler culinary operations, warming milk, broths, etc. and cooking eggs, cereals, desserts, fudge, etc. They should be in every household.

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heat water quicker than by any other method. Three and four quart portable heaters are made (attractively finished) for household, restaurant, soda counter and bar. Easy to sell in the fall.

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The Greenwood Advertising Company has developed a new plan of co-operating with Central Stations. This plan, like the Greenwood signs, has the stamp of

Individuality

Here's what the Greenwood Advertising Company does:

We will send to your city a practical sign manufacturer—a red-blooded *salesman* with ideas, personality, and that great gift, the ability to *close* business. He brings with him an artist, not a so-called "draughtsman," but an *artist,* with his paints and brushes and a genius for designing effective and *individual* electric sign advertising. They work together.

When the salesman develops the interest of a prospect, the sketch is made at once, in color and in full detail, and the sale is closed before the prospect's enthusiasm is allowed to flag. No waiting for sketches, no delay about estimates, no sending to the factory for confirmation of price. The whole proposition is closed "while you wait."

That's the Greenwood way of helping the Central Station.

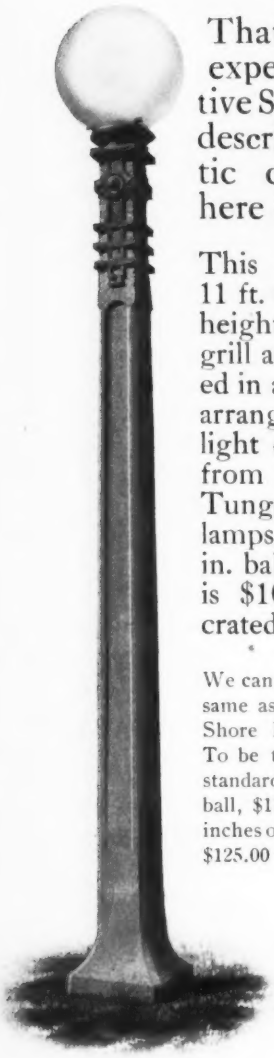
We have written a little booklet about this. It tells just what's behind this co-operation we offer you. We'll send you a copy if you say the word.

Greenwood Advertising Co.
Knoxville, Tenn.

"The Most

Effective

Post Made."



That is how one expert in decorative Street Lighting described the artistic concrete post here illustrated.

This concrete post is 11 ft. 6 in. over all in height with a bronze grill and holder, finished in a Verde Antique, arranged with a three light cluster for use of from 40 to 100-watt Tungsten or Mazda lamps, and with an 18 in. ball on top. Price is $100.00 list each, crated f. o. b. Chicago.

We can furnish the post lights, same as used along the North Shore Boulevards, if desired. To be the same size as above standard, and with an 18 inch ball, $115.00 each list. 15 feet 2 inches over all with 20 inch ball, $125.00 each list.

We also have the largest variety of inverted ceiling lights, in composition or metal. Write for cuts and details.

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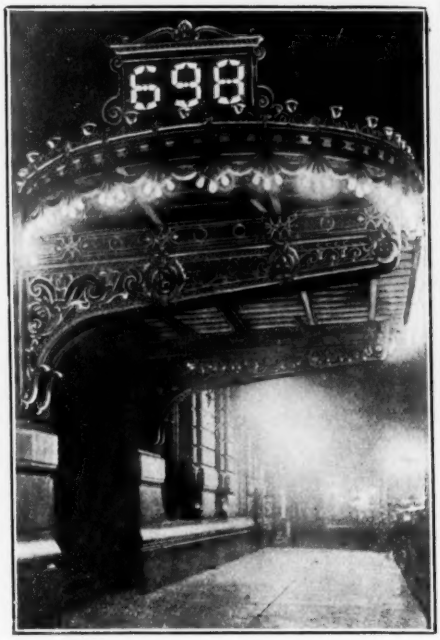

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For Everywhere

The Wall-Win Co.
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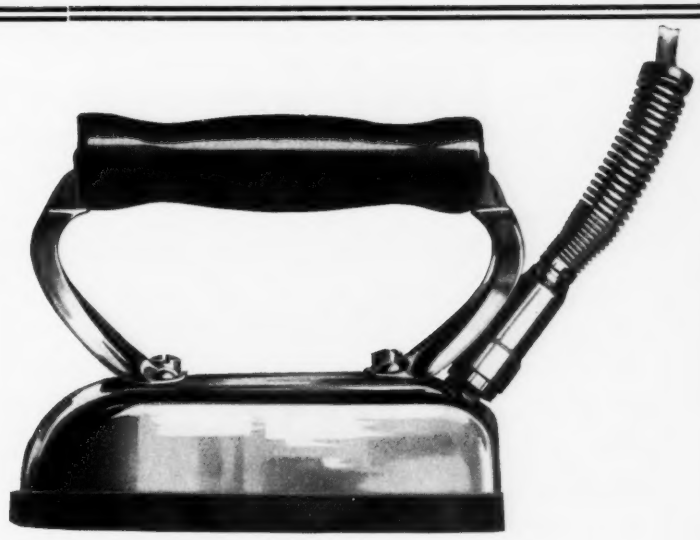
In writing to advertisers, mention "Selling Electricity"



THE WESTINGHOUSE ELECTRIC IRON

The Westinghouse Electric Iron saves you an hour or two every ironing day. It enables you to do better work and to iron on the porch—any place where it is cool and pleasant. It is always just hot enough for perfect ironing. Only one iron is required.

The Westinghouse Electric Iron is made to last a life time. There is nothing about it to get out of order. No housekeeper who tries one is ever willing to go back to the old hot stove method of ironing.

The Westinghouse Electric Iron is sold everywhere by Electric Light Companies, Department Stores and Electric Supply Dealers.

Write to us for folder No. 4197 entitled "For Home Comfort and Convenience."

Westinghouse Electric & Manufacturing Co.

Sales Offices in 40 American Cities **East Pittsburg, Pa.**

In writing to advertisers, mention "Selling Electricity"

ABOLITES

The Latest Lighting Development

One morning, about a year ago, Mr. W. C. Hine of Cleveland, long recognized as one of the leading fixture manufacturers of the United States awoke in the Fort Pitt Hotel, Pittsburg. Intuitively, his eyes sought the object that had been uppermost in his mind for so many years:—the lighting fixture suspended from the ceiling.

The fixture was fitted with sockets, shade holders, incandescent lamps and prismatic glass reflectors; in fact, all devices necessary under ideal conditions to produce scientific illumination. He instantly noted a glaring defect: the reflectors and lamps were so badly askew that the illuminative result would be anything but scientific.

The elements were all there but their connection and relation to each other were not accomplished in a practical manner. This condition had been recognized by lamp men and glass men ever since scientific illumination had been launched. It was recognized by Mr. Hine for years and suddenly, as if by magic, he conceived the idea of a principle that would eliminate all such defects. Before he sat down to breakfast, his ideas were in the hands of a patent attorney and the result was a patented positioning device that will prove a missing link in the lighting field.

THE ABOLITE

built around that cardinal principle will prove of inestimable value in Commercial and Industrial illumination.

The ABolite is simplicity personified. It performs the function of socket, shade holder, insulating joint and suspending fixture. Above all, the patented positioning device provides for all lengths of lamp bases and eliminates all forms of separable shadeholders.

It isn't simply a socket, a shade holder, an insulating joint, a fixture or a reflector, but a simple, practical embodiment of all. It is many in one.

ABolites are manufactured exclusively by The Adams-Bagnall Electric Company and can be used for all kinds of Commercial and Industrial illumination. They are described in loose leaf catalog. Everyone interested in scientific illumination will be interested in this catalog.

May we send it to you?

The Adams-Bagnall Electric Co., Cleveland

New York Philadelphia Pittsburg Syracuse Chicago Atlanta

R. E. T. PRINDLE, Canadian Representative

Head Office, Windsor, Ont. Branches, Montreal, Toronto, Winnipeg

SELLING ELECTRICITY

VOLUME X NUMBER 1

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The "National" Storage Battery for Exceptional Service

A while back, the shrewd analyst could forecast the coming of the "electric" as the logical vehicle for city service. He could reason from cause to effect—could see that many forces were operating, creating a demand for a suitable vehicle and that the "electric" would be the answer.

Now, no one can fail to see the force of such reasoning.

The "electric" is the car for utility and comfort—it stands for refinement—is simple, silent, clean, easily controlled, free from the element of uncertainty—the appropriate car for men and women.

Business concerns with large transportation and delivery problems on their hands find in the "electric" the solution.

The "U. S. Company" has anticipated the trend of events and with its splendid resources has developed a series of batteries to meet the conditions of each class of service with a battery having characteristics which make it most appropriate from the standpoint of economy.

The "National" Battery is making wonderful records for service and efficiency. Solely on its merit, it is winning its way among operators of cars and trucks.

You ought to acquaint us with your operating conditions. You will receive every courtesy, an intelligent analysis of your requirements and, should you wish, a hearty co-operation. Our success depends upon our ability to satisfy with exceptional service.

The United States Light and Heating Company

General Offices: 30 Church Street, New York. Factory: Niagara Falls, N. Y.

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SELLING ELECTRICITY

Edited by FRANK B. RAE, Jr. EARL E. WHITEHORNE, Managing Editor

The Electrical Contractor as a Merchant

A Paper Delivered before the Eleventh Annual Convention of the National Electrical Contractors Association, Niagara Falls, July 20th, 1911

By Earl E. Whitehorne

The world is full of two kinds of merchants, the merchants we know and the merchants in disguise. The merchants we know are comparatively few, the dry goods merchant, the hardware merchant, the grocer, the butcher and the rest. But the merchants in disguise, they are everywhere and scarce one of them ever realizes that he is a merchant at all. Yet what essential difference is there between the man who sells hardware or shoes and the man who sells of his experience and his training? In short, his services, his advice and his time? The doctor, the lawyer, the architect, the engineer and the contractor are all merchants no less because their stock is not all stored on shelves nor handled with a truck and a bale book.

If the word merchant means "man who sells things," can it fail to embrace the electrical contractor, even though his wares are varied in character? He sells supplies, he sells the work of his trained men, he sells his own skilled advice, he sells the-readiness-to-serve of his entire establishment, yet he is no less a retail merchant, for his profit lies in the individual purchases of individual customers. He is a merchant today in all but mental attitude, and right there lies a great weakness.

Now, don't imagine that this is the preamble to a lot of words designed to show that the electrical contractor doesn't know his business. The progress of the last few years and the records of those men who are making splendid financial successes are proof that as an electrical constructor he needs no advice. I do say, however, that as an elecrical merchant he is overlooking about 75 per cent of his opportunities. And in terms of dollars of profit these are probably the best opportunities which the future promises.

Selling food and clothes to the people is the oldest business on earth. From the first bartering posts down to our modern department stores has been a long chain of evolution with competition ever stronger and a constantly broadening knowledge of human nature and how to sell. Consequently, the present day merchant is a good man to watch, for after all, it is the same people, the same human problem that confronts the regular merchant and the merchant in disguise. One of the distinguishing characteristics of our electrical merchant, however, is his apparent disregard of those very methods and principles which have brought about growth and success in the broader field.

Nature has ordained that in the grand average the supply and demand shall balance, but in those sometime seasons when the demand becomes

insistent because unsatisfied, it is woefully demoralizing to the agent of supply. We have an apt illustration in the history of the central station. When electric light was first offered to the public on a practical basis, it was such a marked improvement over the open gas flame that the people clamored for it. No effort was required to sell it and soon the men in the lighting companies began to feel that they were conferring a favor on the consumer by accepting his contract. This bred the "public be damned" attitude that nourished the seed of "municipal ownership" and raised such a furor throughout the country a few years ago. But it happened that the cry of municipal ownership came loudest just at the time when this "come easy" business was about soaked up. So there was a rude awakening when it became necessary to actually dispose of the product of the generators in a market which was antagonistic.

The old central station mental attitude had to give way to men who could see the proper relation between manufacture and sale, for that was the crux of the matter. Because in the early days it was the inventor, the developer and the engineer who had won the fame, the industry forgot that it was only in its commercial aspect that the production of electricity could benefit the world, and become a real business success.

The same conditions have governed the electrical contractor in his development. He started as a "screw driver electrician" and a "handy-man," stringing bell wire, fixing locks and doing general tinkering. Then came the work in the lighting field and he began to accumulate a stock and soon grew into a real live contractor, but all the time the demand was pushing him on. He was not really selling, he was answering the call of people anxious for his services and simply following up the inquiries reported by the lighting company, taking care of regular customers and, of course, from time to time lightly scooping off those large gobs of cream which appeared floating on the surface in uncomfortable positions. Consequently, because his business has increased automatically with the growth and popularity of electric service, the electrical contractor has had small occasion to consider whether he is a merchant or not, and as a result there is hardly a city in the land where there is any well-defined headquarters for electrical merchandise.

The ill-informed citizen whom we must recognize as representing the majority among our prospects simply knows that electrical matters are in the keeping of the electric light company and the electrical contractor. The electric light company, as he sees it, sells electric light and in a corner of its office exhibits a lot of current consuming apparatus such as irons, fans and vacuum cleaners. The electrical contractor's business is apparently to wire houses, though behind his counter he sells lamps and lamp cord and sockets and the same general line of appliances. Mr. Householder is probably suspicious of the central station because he knows they want to sell more current. He is suspicious of the contractor for the same reason that he doesn't trust the plumber, he is afraid that a call on him will mean a man and a helper on the job for three hours. His conception of the plumber is two men smoking on the cellar steps while the boy goes back to the shop for a piece of candle and a left-handed monkey wrench. His idea of the electrician is based on his experience with the plumber.

What he wants is an Electric Store, just like a hardware store. When he wants to put a lock on a cupboard door, he goes to the hardware man and tells his troubles and the hardware man shows him some new scheme for a hasp and padlock that just fits the case. He wants to be able to go to the Electric Store and say: "I want to use a fan in my bedroom while the light burns. How can I do it?" He wants to have the current tap and the flush receptacle laid before him and explained, not by a grimy stock clerk,

but by the same kind of a salesman he finds in other stores.

You know how it is now in most places. Smith meets Jones going down on the car some hot morning, and he says, "My Lord! Isn't this heat awful? We were awake half the night. By the way, where did you get that electric fan of yours? I'm going to have one sent up to the house this morning."

"Why, I got mine," says Jones, "down at the General Electric Inspection and Construction Company."

"Well, I don't want to be inspected or constructed either. Is that the only place to go?"

"Oh! You *can* go down to the Electric Light Company, but I usually go to these people. They're down on Eastside Street."

"Where's that," exclaims Smith, "Never heard of it."

"Why, it runs parallel to Busy Street," says Jones. "It's two blocks south. You can find it. But if I were you I'd send for it because they're liable not to deliver it today."

So Smith calls up his wife and she stops at the office of the General Electric Inspection and Construction Company in her car. There are a couple of running fans in the show-window surrounded by fuses, cutouts, switches and a lot more bric-a-brac which mean nothing to the average citizen, but otherwise there are no signs of life. As she enters, however, a boy in a greasy pair of overalls comes out of a back room with his hat on and walks behind the counter. She picks her way in between a tool bag, coils of wire, a step ladder and a bundle of moulding.

"I want to buy an electric fan," says Mrs. Smith.

"A. C. or D. C.?" asks the boy, which, of course, means about as much to the good lady as a line of Hottentot.

"I'm sure I don't know," she says, "but we live on South Terrace Street."

"Then you don't know what your voltage is either, I suppose." This from the individual in overalls as he begins to pore over a map, and Mrs. Smith, never having realized that she owned any voltage, is properly impressed with her deplorable ignorance in matters electrical.

Finally, the boy announces that it's "A. C.—hundred and eighteen" and lifts down a 12-inch fan, which is satisfactory.

"How much is it?" asks the customer, and after a fruitless search for a price tag the boy calls back, "Hey, Jimmie, how much is the 12-inch A. C.'s?" And Jimmie, being in the inner office and not knowing what discount to figure, yells, "Who's it for?"

"A lady," shouts the boy.

"Oh," says Jimmie, "fourteen dollars is the price," and Mrs. Smith goes off with her fan and the haunting suspicion that she is "Stung again!"

Perhaps I've overdone this a bit, but you get my meaning and you know that just this sort of thing is happening every day. The contractor has made the mistake of looking on himself as a constructor rather than a merchant. He has never denied the fact that he ought to advertise, to keep a more attractive store, and to give more attention to present customers, but after all, it has seemed a secondary matter and has suffered the penalty because his office organization is small and absolutely dominated by the details of handling the jobs, keeping the men's time, buying stock and collecting bills. The real aim of the business—to make money—is generally left to follow along automatically.

So he sits back and says, "Yes, I'm the electrical contractor in this town and before many years, when the people wake up to what electricity will do for them, I'll have a big thing here." But in the meantime, who is going to have the Electric Store which will some day and soon be far more important to the average household than the hardware store? Is the contractor content to wait for the natural growth of the population and the gradually increasing popularity of electric service to bring him prosperity? Or is he going to take the cue from the pro-

gressive merchants in other fields and create an even greater market for his electrical merchandise? And remember, electrical merchandise means not only appliances and fittings sold over the counter, but that other merchandise in disguise, the services of your men who will of necessity install a great part of it. The word contractor does not embrace the scope of the business even today. You are engaged in the sale of electrical merchandise, but the service you offer your patrons covers its installation and your expert advice. You are or should be headquarters for everything electrical, except the current.

Let us stop for a minute and assume the mental attitude of the regular merchant. Let us look at it through the eyes of the merchant who knows he is a merchant. Consider a good, bright, brainy, ambitious young man who, we'll say, has worked three years with a central station as salesman, and then put in five years in a hardware store, not one of the old-time combination curiosity and junk shops, but a real, live, enterprising and prosperous concern. He would have the foundation for a pretty practical conception of what the Electric Store could expect and accomplish by modern merchandising methods, say in a growing city of 20,000 or better.

He would argue to himself that the Electric Store must certainly be as much needed by the average family as the hardware store. When a man's house is built, it is completely equipped with hardware. It has to be. Yet, though you would think he would have no further use for a hardware store, he is constantly wanting some hinge, or bolt or screws, a garden tool or a pocket knife. The householder can't get along without the hardware store. Isn't it obvious that by the very nature of things electrical he needs an Electric Store far more than the hardware store?

When he builds a house only the lighting equipment is installed, as a rule, because by the time he comes to that he has a hungry pocket-book, and he promises himself that the other comforts of electric service will be added from time to time, later on. Consequently, in the average family, where the scope of electric service is appreciated, there is a continual planning for more of the electric home comforts. First they buy a fan, then a toaster, then a vacuum cleaner and then a general utility motor, and lamps, current taps, separable plugs, receptacles, sockets and switches are required, year after year, just as we need new door knobs and hinges. But the difference is this, that while hardware receives comparatively little wear, we live with our electrical equipment, we use it constantly, changing it about every now and then, and it is ever a live personal matter with us. That means that the natural wear and tear will tend to make permanent customers for the Electric Store.

We are speaking of those families who recognize the broader aspects of electric service. What of the others? Our trained merchant would count on this majority as the vast untouched market which can be reached, interested, educated and secured as active consumers of current and customers of the Electric Store, simply by the ordinary methods employed in the upbuilding of any other retail shop. But here's how he would go about it.

The most important thing is location. If you send out a "sandwich man" with a sign on his front and back, you tell him to walk on Busy Street, not on the canal tow path. If you want the people to see your show-windows and come in and buy, remember there are more of the public than there are of you, and take your front door where the crowd not only can find it, but can't miss it. In other words, there is only one place for the Electric Store and that is in the middle of the shopping district, on the right street and on the right side of the street. To start a store of this kind out of a shopping district would be about as foolish as to put a big ad in the morning paper and tell them to run it only in the first hundred copies.

What you want in the newspaper is circulation, and a show-window that is seen by 8,000 people is just four times as valuable as the window that 2,000 people pass by. There's only one way to reckon the value of location and that is to count the traffic.

So our ex-central-station-and-hardware man would secure a small store in the heart of the city, paint it a bright attractive color, inside and out, and put up a good-sized, forceful electric sign. He would decorate his windows, not with plug fuses and rosettes, but with household devices and the things that will interest the average man and woman. He would display his goods inside as the department store man does, keeping his rough and dirty moulding, conduits and second-hand junk motors out of sight. In short, his Electric Store would be clean comfortable and inviting like any other successful store that sells to the public, and the man or men behind the counters would be real salesmen, not stock boys, wiremen's helpers nor bookkeepers who stroll in when the door bell rings and "wait on" the customer, though the customer is apt to do most of the waiting. He would make this store a feature of the city's shopping district, advertising it in the newspapers continuously and consistently, though not necessarily in large or expensive space. He would have special sales of this, that and the other thing to draw the crowds, and back them by clever and regularly changed window attractions and the other devices of the department store man.

This generation expects and demands service and is willing to pay for it. The electrical contractor has been overlooking this point. It is an age of specialists and when we want information and assistance we go to headquarters, and headquarters is supposed to be ready with the last word and a bill. People are willing to pay the price if they get the service and it is no less true in its application to the electrical contractor than to any other man.

The whole thing comes right down to this. The contractor has not appreciated the fact that he is actually a merchant or there wouldn't be such a marked contrast between the atmosphere of the average contractor's office and the successful shoe or hat store.

Different kind of business?

Sure, but that's not the point. *It is the same kind of public you are selling to!* The contractor says, "My business is different," but what's that got to do with it? Stop thinking of yourself and consider your market. You're selling the same people who flock to the department store to spend their money. The general merchant has been in the game longer than you have and if his methods get the business, he must be right. If the public responds to such measures, why should the contractor ignore them?

"That's perfectly good logic," some contractor says," if I want to keep a store—But I don't." Let me ask one question. Is the electrical contractor in business just to be busy wiring houses or is he working for profit and all the enjoyment and satisfaction he can crowd into life?

We all like to be busy. The busier we are the more prosperous, satisfied and generally worth while we feel—but it doesn't always follow. "Theoretically," the contractor says, "every job should show a profit, but of course, the uncertainty of the labor item and the necessity for close figuring against competition makes that impossible, so we work it out on the grand average."

"Grand averages" represent our most popular method of fooling ourselves. The only ultimate and enduring success is the business established in the public mind and where every sale means a profit. Ideal? Not at all. Consider the department store. The basis of department store prosperity is bookkeeping. Be honest with yourself in depreciating not only stock but everything that can be depreciated. Analyze your business constantly and have nothing to do with work that is unprofitable. When the contractor maintains an Electric Store that is

recognized as the headquarters for everything electrical he will have built up an auxiliary business of assured profit, which will at the same time be a feeder of that most desirable class of small wiring jobs.

A woman comes in and buys a heating pad and asks how she shall attach it at the bed side. The salesman explains the advantages of the baseboard receptacle and suggests that, inasmuch as one of the men is going up near her home that afternoon, he can install an additional outlet for her at a very small cost, and will bring the heating pad and everything with him. Think how much greater will be the opportunities for making permanent customers than in the case of the hardware store where the goods are bought and carried away! Every sale made from the Electric Store will carry possibilities for the installation of further facilities for connecting and controlling the appliances. The public has grown to expect and demand service before all else, and is willing and ready to pay the cost of such service in the case of electrical merchandise as well as any other and the contractor is the logical man to enjoy the benefits.

The question is: How shall the contractor develop this Electric Store out of his present business? And the answer is: Advertise, and by advertising I mean do everything that you can tmnk of to make your store popular and profitable. Advertising does not mean printed matter or large expenditures of money, but any one of the thousand little schemes to make men and women buy. After you have secured the best available location, had your store attractively decorated and installed a real salesman, do this sort of thing:

Put cards in your windows explaining what the appliances are for, how much they cost to run an hour, and the price. Remember, the public is ignorant of these things and often does not even recognize a toaster or a vibrator.

Hang a cigar lighter over the counter with a card reading: "Light your cigar here."

Follow the weather and the seasons. On a boiling hot day put a battery of fans on a table just inside your door to blow out over the sidewalk. And during cold snaps set a luminous radiator on the counter with a card "Warm your fingers here," and turn it on whenever there are customers in the store.

Back this up in your newspaper advertising. Make it seasonable and talk about one thing in an ad.

Have sales of irons, heating pads or fans when the weather gives them especial appeal. Sell them cheap for a day and advertise the price.

Use street car cards occasionally, but don't waste money by putting them on lines running through sections of the city where there are few logical prospects for the goods advertised.

Make your windows work all the time. Keep them always new and interesting. It isn't so hard if you give it a little thought.

Have the appliances all connected ready to run and when you get in something new, say a drink mixer, call up the druggists and the cafes and arrange to trot it around and show it to them.

Lay out a schedule of seasonable business, month by month, on cards, so you can always have a reminder before you. For instance:

Don't forget to canvass the livery stables just before the ice comes and sell them emery motors for grinding horseshoe calks. Blacksmiths will look long on the forge blower at the same busy season.

Push the vacuum cleaner hard at spring and fall house cleaning time.

Go after the bottlers of beer and soft drinks when the hot weather first commences. It is hard to get their attention during the rush, but bottle washers should be most attractive at the close of spring.

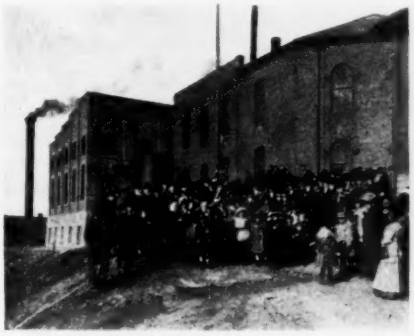
There is one best time to sell most every electric appliance, and the profit is largest right then because it costs less to sell. Work up a twelve-months'

plan of campaign and decide that you'll be the most enterprising merchant in your city, and you will be.

In short, it's high time for the contractor to take hold of his business with both hands, both feet and his whole brain, and make his sign mark the headquarters for electrical merchandise. There's an important question to be answered in this country before long, and that it—Who is going to own the Electric Store?

Richmond (Ind.) Company Holds A Flag Raising

The four photographs reproduced below tell the story of a most original and successful flag raising recently celebrated at the plant of the Rich-



The Crowd at the Flag Raising

mond (Ind.) Light, Heat and Power Company.

Mr. Fred L. Schornstein, who has been manager of the property for the last year and a half, conceived the idea of holding a public celebration at the power house, with a reception and tour of inspection to impress upon the public the size and character of his establishment. This was in line with a policy which Mr. Schornstein has steadily advanced, to further the public interest and understanding of the aims and methods of the company. This has consisted largely in active participation in the activities of the Young Men's Business Club, among them a movement to improve the appearance of the numerous industrial plants in Richmond and to beautify the city.

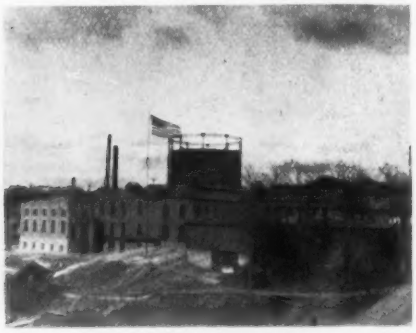
The flag raising was widely advertised and a general invitation extended to the public to attend the ceremonies.

Carrying the Flag to the Staff

The active interest and support of the emloyees of the company was a notable feature and the flag pole was made and erected by the men at the station. In spite of the fact that it was a cold windy day, nearly 500 people were present. Six little girls carried the large silk flag from the power house to the 71 foot steel pole, preceded by three men in "Continental" costume, with fife and drum. The exercises at the pole were under the auspices of the Women's Relief Corps, and the local chapter of the Daughters of the American Revolution, the program including an address, the recital of the poem "Old Glory" and other appropriate numbers. After the flag was unfurled, the ladies of the two organizations were conducted through the

The Generator Room Decked for the Luncheon

plant and entertained at an elaborate luncheon served in the generator room, among the whirling belts. Every detail was explained by employee guides, and each lady received daffodils and a little silk flag as souvenirs and was much impressed. The newspapers reported the flag raising at length and in most complimentary terms.



View of the Flag and Buildings

Mr. Schornstein has made this exhibition of his plant a feature of his publicity methods, and not long ago entertained another social organization, the Ladies of Pocahontas, in a similar manner. It has proved a most satisfactory means of creating public interest in the company, and of great value, in consideration of the active municipal competition in both light and power.

The Decorations for the G. A. R. Encampment

Another recent achievement of the company which elicited much favorable comment was the illumination of the city during the G. A. R. encampment, held there recently. The photograph shows Main street, looking west. This street was profusely lighted and presented a brilliant appearance at night, strings of bulbs being stretched along the sidewalks and across the street. The entire fronts of the Court House and the High School building were covered with red, white and blue lights, the effect being most striking. The visiting veterans were highly pleased with the electrical decorations in their honor and warmly praised Mr. Schornstein's efforts.

Mr. Schornstein resigned from the Richmond Light, Heat and Power Company on June 1st, to undertake a similar work for the North Carolina power development. The success which his efforts had met in Richmond is indicated by the farewell banquet tendered him by the Young Men's Business Club, at which he was presented with a diamond studded Elks badge. The employees of the company also presented him with a diamond stud, as a mark of their good wishes.

Boosting Business by Baking at Billings

A recent demonstration of the electric cook stove, conducted by the Billings and Eastern Montana Power Company, of Billings, Mont., served not only to show the public what could be done with an electric stove but was also instrumental in increasing the friendliness of the public attitude towards the power company.

A room was rented on a prominent street and the demonstration extensively advertised. On the appointed day a dinner prepared entirely by electricity was served to 100 of the leading business men, the Mayor of the city presiding, and commending the efforts of the power company to educate the public in the uses of electricity.

The following items, cooked and baked on an electric stove for the dinner, are of interest: 22 loaves of bread, 20 cakes, 26 lbs. of meat, 20 lbs of potatoes, 12 cans of June peas, and 8 gallons of coffee, the grinding of which was done by electricity, as were the mixing of the bread and cake.

The entire dinner was prepared in the demonstrating rooms at a total cost of less than $1.00 for current.

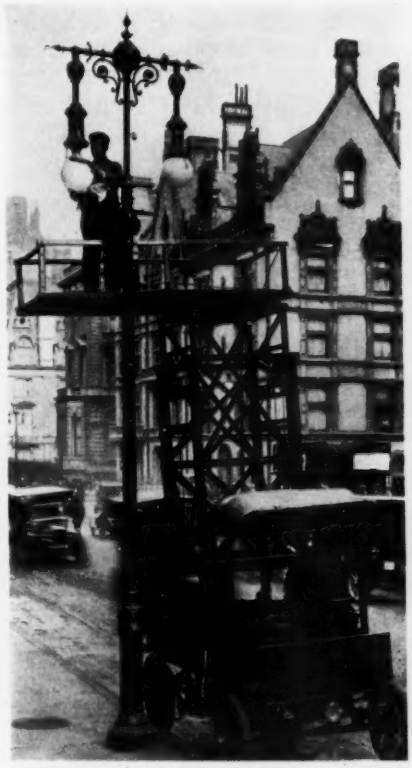
The Electric Automobile in Central Station Work

The extensive use which is made by the public service corporations in the United States of the labor-saving applications of the electric automobile, not only for delivery service, but in construction and repair work, is described by Joseph B. Baker in the *American Exporter*.

The most useful of these trucks is fitted with a motor-driven winch for setting poles, hauling wires and cables through subway ducts, and work of a like nature which formerly necessitated a number of men to perform. A motor-driven rotary pump, mounted on a heavy electric truck, is found to be of great service in pumping out manholes, as is frequently required in some localities after heavy rains. The pump motor and that of the truck are operated from the same storage battery, a double throw switch making it impossible for both motors to be connected with the battery at the same time. The Edison Illuminating Company of Boston has a pump of this description capable of pumping 100 gallons of water a minute, or a total of 180,000 gallons on a single charge of the battery. It is mounted on a truck having a maximum speed of 40 miles an hour.

Another use for the motor car is in connection with thawing out frozen water pipes in the winter. A heavy transformer or a heavy motor generator delivering a large current of electricity at low voltage is mounted on a truck so that it may be brought close to the frozen pipes. The primary circuit of the electrical machine is then connected to the mains and the secondary terminals to the ends of the frozen section of pipe.

A tower wagon for trimming arc lamps in cities saves a great deal of time formerly consumed by the lamp trimmers in covering their routes on foot and in climbing the posts or lowering the lamps to the street. The illustration shows such a wagon in use in New York City. It has a crew of two men:—the driver, who opens the key switch at the base of the post, and the trimmer, who rides on the top of the tower, having direct access to the lamps. A tower wagon used by the Philadelphia Electric Company is operated by one man who drives the vehicle from the top of the tower by means of a special controlling and steering gear, so arranged that it can be operated from the lower seat when desired. By the use of this wagon



Motor Driven Tower Wagon in the Service of the New York Edison Company

trimmer is able to do in six hours work which formerly required nine. Besides representing a saving in labor the unique appearance of the vehicle has a decided advertising value.

Experience and actual figures prove conclusively the many advantages to the central station in the use of the electric vehicle and its adoption in the field is becoming more and more general.

Advertising to 83 Municipalities*

Publicity Methods of the Byllesby Properties—The Story of a House Wiring Campaign

By Wm. H. Hodge, Publicity Manager, H. M. Byllesby & Co., Chicago

H. M. Byllesby & Co. at present operate one or more of the electric, gas, street railway, telephone and steam heat utilities in thirty-five urban centers, located in twelve Western and Southern States, ranging in population from 215,000 down to 6,600. From these centers 83 separate municipalities are served. We serve the great

Wm. H. Hodge

majority of these municipalities with electric energy.

The advertising for these properties is under the supervision of a department of publicity at the home office in Chicago. The department of publicity is directly under the Chief of the Operating Department and is not part of the New Business Department, although much of its work necessarily is in connection and in close touch with the latter.

Among the duties of the Publicity Department, other than the commercial advertising of the local properties, is that which may be termed "good-will publicity"—that is, work of an informative character aimed to promote friendly relations between public and operating companies. A proportion of the total newspaper space used—perhaps one-fourth—is devoted to this purpose.

I shall not attempt to discuss our methods of "good-will publicity," which have been rewarded with marked success, but shall confine myself to our advertising work of a commercial nature.

Before dismissing the subject of "good-will publicity," however, I wish to state that properly directed efforts along that line contribute materially to the beneficial results obtained by advertising and personal endeavor intended to sell service or appliances. The former does a great deal toward creating a friendly and receptive state of mind for the latter.

We place our main reliance in advertising in the newspapers. We use billboards to a moderate extent, and painted bulletin boards (illuminated) likewise. A few cities use street railway cards. Advertising in programs, on theatre curtains, etc., is discouraged. Slides at moving-picture theatres are considered good. Letters and circulars are employed in special campaigns. A limited number of booklets and pamphlets are distributed monthly to selected prospects. Booths are equipped and maintained at exhibitions, fairs, etc. Demonstration work is practiced as occasion and necessity require.

The amount spent for advertising necessarily varies with local conditions. We endeavor and usually succeed in keeping the total annual expenditure within 1 1-2 per cent of the gross income, and the appropriation for newspaper space alone within 1 per cent.

In our opinion, the backbone of central station advertising must con-

*This remarkably instructive paper was incorporated in the report of the Committee on Advertising and Publicity delivered before the N. E. L. A. Convention in June but was not included in the abstract published in the June issue of *Selling Electricity*.

sist of the intelligent use of newspaper space in all cities that have a daily press. The other forms and media are supplementary. There are several reasons for this conclusion, by no means the least being the elements of relative cost. We are firm believers in what Mr. Samuel Insull calls "the regular, persistent use of newspaper space, filled with copy carefully and intelligently prepared." Our advertising arrangements and plans are made on a yearly basis, the local properties, as a rule, making definite contracts with the publishers. The size of the ads (usually about 30 inches), the days of the week in which they are to appear in each newspaper, the frequency of changing copy—all are fixed on a specific schedule, which is maintained straight through the year, and varied only by the use of larger space for some special purpose. We know before we start, within a few dollars, what our newspaper advertising will cost us for the year, and the amount becomes a fixed expense for that year in an operating sense.

I do not wish to go into a psychological analysis of this method. It is sufficient to say that it is the method which works best in actual practice and affords an opportunity for central station advertising to do its utmost in playing its part in getting the business. It merely "affords an opportunity," because advertising depends for efficiency, to the extent of at least 90 per cent, not upon the purchase of media, but upon the copy used.

The copy used at all central stations under the Byllesby management is sent out from the publicity department at Chicago. It is prepared and selected with the greatest care.

Our copy plans for the coming year include a far more extensive use of illustrations, designed under our direction. We shall not, however, employ pictures in more than half of our ads.

In one of our special campaigns last year, newspaper advertising had an opportunity to demonstrate clearly its value to the central station, and I am in a position to offer certain data in connection therewith.

This campaign was aimed to secure the electric wiring and equipment of old dwellings—a class of business difficult to obtain in cities that have had the central station service for years. The general plan was formulated by the New Business Department and the Publicity Department at Chicago, and the details were left to the local New Business Department.

Specifications were made providing for three separate propositions for wiring and equipping a five-room cottage for lighting. The local contractors were invited to submit bids. One or more contractors were selected to do the work. The company paid the contractors' profit outright. The customer obtained the job at the actual cost price. If a better or more extensive job was wanted than embraced in the three so-called "standard propositions," the company's obligation to pay the contractors' profit ceased.

The campaign started October 1st and terminated promptly November 15th, lasting, therefore, 46 days.

Five pieces of advertising copy were prepared, one being for a full page, the others occupying the regular space. This special copy was interspersed with other matter calculated to arouse interest in good household lighting.

The "keynote" of the copy was the line: "Your Home Wired for Electric Light at Actual Cost," and the line: "We Pay the Contractor's Profit." We told frankly why we were willing to pay the contractor's profit, and why it was good business policy for us to do so. We also emphasized the fact that the offer was open for a limited time only.

The New Business Department solicitors in the seventeen cities where the plan was tried, succeeded in closing 1,468 house-wiring contracts in the 46 days. The total population of these cities is 327,000. No special terms of payment were offered other than what the contractors were willing to allow in the ordinary course of their business. Many of the contracts

called for far more costly installations than were offered in the "standard propositions," and in these cases, of course, the company was not called upon to pay the profit on the job.

The average cost to the companies, per contract, including cost of advertising, cost of soliciting and contractor's profit, was $4.83.

The most conspicuous success was in the city of Mobile, Ala., where 662 houses were wired, at an average cost to the company of $3.22. On October 1, 1910, Mobile already had in service one meter for every seven white inhabitants. The gain in wired houses amounted to more than 16 per cent. Less than one year before, practically the same terms had been offered in a house-wiring campaign which netted only 10 contracts. In the former, campaign copy *not* prepared by advertising experts was used. A full-page ad was used in the Sunday papers at least four times during the campaign last fall, and, in addition, was run off as a hand-bill and widely circulated. It and the other advertisements also were posted in the windows of the company's office. The soliciting force consisted of four men, under the direction of a very able new business manager. Special cash prizes were offered to the soliciting force, and each man managed to participate in the prize money.

The entire force at Mobile unite in giving the advertising methods employed a large share of credit for the success of the campaign, which exceeded the most optimistic estimate by 200 per cent.

At San Diego, Cal., with one meter in service for every 6 people, 103 houses were wired, at an average cost of $6.15. Here no "standard propositions" were offered, and the company simply rebated 15 per cent of the cost of wiring, upon presentation of the contractor's receipt.

The number of houses wired greatly surprised the local management. The campaign followed the addition of more than 700 electric customers during the months of July, August and September. Only $30 was spent by the company for soliciting in the house-wiring campaign. On the Monday following the publication of the full-page advertisements, upward of 50 inquiries were received at the company's office. Among other things, the campaign accomplished at San Diego, was the wiring of two hotels and the stimulating of a wiring contractor to put in a cut-rate campaign of his own after ours closed.

In some of the smaller cities the full-page ad did not draw so well. I am inclined to think that, in these smaller places, say, from 25,000 population down, the repeated use of special copy in the regular space would have produced equal if not better returns.

Contrasted against the campaign under discussion, in which newspaper advertising was employed freely, I am able to cite another and separate house-wiring effort in a city of close to 200,000 people, in which newspaper advertising was not used at all.

Although the field was most promising, the soliciting force signed but two contracts for wiring in their first two weeks' work. Later, circular letters with stamped return post-cards helped in saving the campaign from utter failure.

In cities of medium size it is not always easy to trace results to advertising covering electric signs, window lighting and store lighting, but when merchants comment to our solicitors on the central station copy and then imitate the style and character, we know that our ads are being read by the merchants, and are making an impression which paves the way for the salesman.

At one time I considered money spent on advertising electric power thrown away. I have changed this view entirely. There is a kind of power advertising that produces results, if there is any market for additional power business at all, and that kind of copy is nothing more nor less than good, old-fashioned, bona-fide, signed testimonials. We are co-operating effec-

tively with our sales force in this manner, and the power load at nearly all of our properties is showing a remarkable impetus.

Our effort is to make every possible power user in a community *think* of *motor drive* whenever the subject of *power* enters his mind at all. Sooner or later we know he is bound to give the question serious attention.

The returns from central station advertising should not be measured by the same standards as the returns from the publicity efforts of retail merchants. Where the one leads to a sale, the other creates a customer. One customer to a central station is worth many sales of gloves, stockings, shoes or handkerchiefs by the merchant. This idea is properly extended to the placing of appliances, since the use of an electric flatiron or a toaster or motor means additional service sold for months and years to come. Electric signs, show window lighting, power business—everything that advertising can promote—signify not simply a sale of product and the taking of a single profit therewith, but a steady monthly revenue and a reasonable profit annually for an indefinite time in the future.

There are few lines of retail business today wherein intelligent, persistent advertising can do more than for the central station industry. It has been only within a few years that the word *intelligent* could be applied truthfully to any central station publicity, and even now most electric sales copy lacks either adult thought or human interest, usually both. A great deal of it is over the heads of the readers, and a lot more of it is as dull as ditch water. It doesn't tell anything of any importance to anyone over and above what he already knows. It fails to catch and rivet the reader's attention on some one feature of the business that will appeal to his logic, and coax him to become *interested* in spite of his will.

The central station business does not lack variety of topic for the skilled copy writer. Advertising writing, however, is not learned in a day. It can't be imparted over night to the most brain-endowed. Big central stations ought to hire the best talent procurable; little central stations should pool their interests and employ jointly some man or agency who can make their newspaper advertising so attractive that nine out of every ten readers will see it, read it, and eventually climb into the central station band wagon.

Co-operation in Selling Electric Flatirons

A clever plan for increasing the sale of electric flatirons is that used by the Hot Springs (Ark.) Water Company, which also operates the central station. Arthur E. Main, superintendent of the company's electrical department, furnished all the dealers in electric irons in the city with a book of coupons, each good for a fifty-cent reduction on the light bill when presented at the company's office.

Two of these coupons, representing $1 worth of current, are given by the dealers to each purchaser of an iron. Hundreds of irons have been sold by means of this inducement, substantially increasing the day load of the station.

A Hot Weather Hint

An item which will doubtless be of great interest to the electric vehicle and battery men who read the *Electrical World*, is published in a recent issue under the heading "Saving in Cost of Ice Delivery.'

It seems that a combination ice-electric plant in the south replaced its three mule- or horse-driven delivery wagons last year with one self-propelled wagon, resulting in a great saving of time, labor and money, full statistics of which are given.

This is interesting and no doubt true, but a peculiar feature is the fact that the motor truck is propelled by gasoline

One wonders if that electric-ice plant is lighted by gas or by candles.

Broadway Electric Signs as National Advertisements

Electric advertising is coming into its own more and more every day, the latest development along this line being the acceptance by big advertisers of the idea that a Broadway sign is a national advertisement.

Taking the stand that the Broadway electric signs, excepting those advertising whisky, are put up to attract the attention of the dealers of the country and not the public, Kirke S. Pickett in the June 1 issue of *Printers' Ink* states that a sign shining down upon Broadway can advertise the goods in every section of the country.

One of Broadway's most Spectacular Signs

Traveling salesmen for the Nonotuck Silk Company, of Florence, Mass., which operates the famous Corticelli Kitten sign at 42d street and Broadway, report numerous instances of the influence of the sign on their customers.

Those who had not seen the sign had heard of it and were almost sure to mention it upon hearing the company's name, affording a pleasant opening topic for the salesman.

A photograph of the sign was reproduced in colors on a post card and mailed to the list of dressmakers and dealers. The face of the card bore a description of the sign with statistics as to its dimensions, number of lights, etc.

As advertising "space" Broadway is unique among the streets of this country. The point where it crosses 42d street has been well called the center of the world, for, like the Champs Elysees in Paris, if you stand there long enough, you will see nearly everybody you know.

Between two and three hundred thousand people, according to police records, pass through the Great White Way every day and thousands of these in the course of the season are buyers, at least 10,000 representing the men's wear trades alone. These buyers represent stores having an enormous distributing capacity and they cannot fail to note the sign that is of interest to their trade.

The signs meant to interest the dealers are, for the most part, confined to the section between 34th street and 72d street, for within that space of less than two miles are situated most of the theatres, restaurants and other places of interest to the visitor.

The Heatherbloom ad, showing a young woman walking in the rain, her skirts blowing in the wind, was one of the first non-liquor and non-tobacco commodities to make its appearance in the theatre district of Broadway. An interesting fact in connection with this ad which was erected by A. G. Hyde & Company over two years ago, is that the cost is charged one-quarter to local advertising and three-quarters to national advertising.

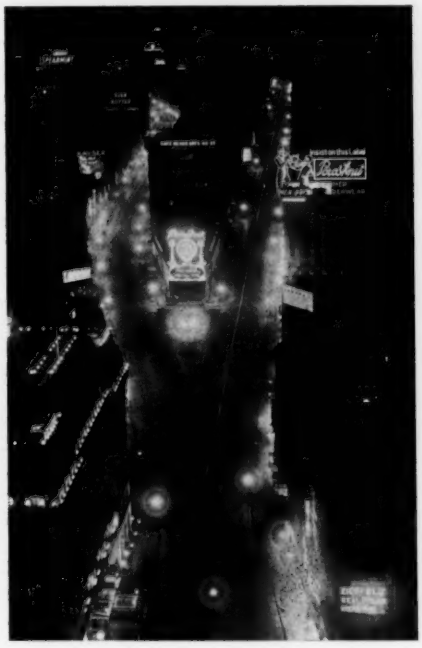
Advertisers today are paying about $20,000 a month for signs between 34th and 72d streets and the Nonotuck Silk Company, as a result of the influence of their sign, are negotiating

Photographs by courtesy of The New York Edison Co.

for the erection of 25 similar electric advertisements in different cities of the country.

There has been some criticism by certain "improvement societies" of some of the electric signs and the advertisers have shown great willingness to co-operate with these societies in removing the objectionable features of their signs wherever possible.

It has been suggested that the outdoor signs at 34th, 42d and 72d streets should be of different types; those at



Looking up Broadway and Seventh Avenue from the Times Building

34th, for instance, in Colonial style, those at 42d taking Indian themes, and those at 72d after the Dutch type. As yet, nothing definite has been done along these lines. Some of the signs are of heroic size, notably that of the Chariot Race, built on the roof of the Hotel Normandie at Broadway and 38th street, which has been described in *Selling Electricity*. Other large signs are the Perrier Water sign, which is 55 feet high and 108 feet wide; the Spearmint Chewing Gum, 48 feet high and 153 feet wide; the Kayser Gloves sign, which is 56 feet square; and the Porosknit sign at Seventh avenue and 47th street, which measures 60 feet in height by 108 feet in width, the height of the "P" being 17 1-2 feet.

These signs carry an average of over 3,000 lights each and are maintained at an average cost of about $1,500 per month apiece.

Easy For Enid

An interesting example of opportunities offered by peculiar natural conditions was shown recently at Enid, Okla., where a "white way" was installed without the usual tearing up of paving. This was accomplished by forcing the 1 1-4-inch iron conduit through the subsoil, which happened to be of a sandy nature, the pipe end being capped to keep out the dirt.

The installation comprised sixty ornamental iron posts fifty feet apart and carrying two 40-watt and one 60-watt tungsten lamps which burn until midnight and daylight, respectively. The lamps are operated at the expense of the city.

Growth of Residence Load in Philadelphia

The bulletin of the Philadelphia Electric Co. reports that the list of dwellings in Philadelphia using electricity was increased by over 2000 during the year 1910, and that there are at the present time, either just completed or in the course of erection, fully 2000 additional dwellings which will be connected to the company's lines to swell the record of 1911.

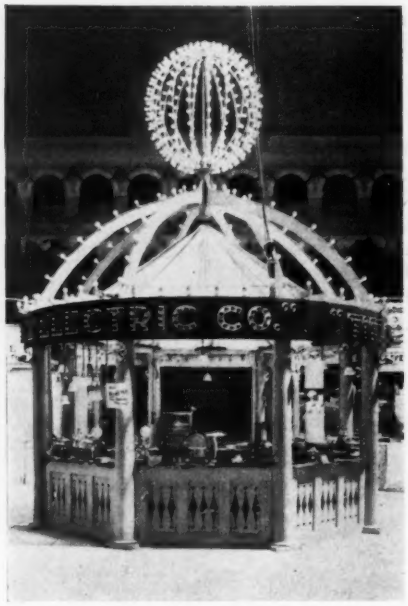
Increased Flatiron Load

The General Electric Company reports that it has received an order from H. M. Byllesby & Company of Chicago for 5,004 flatirons, and an order for 6,000 from the Southern California Edison Company of Los Angeles, Cal.

These large orders are an indication that the flatiron is still among the "best sellers."

Milwaukee's First Electrical Household Appliance Show

Taking advantage of the Pure Food and Household Show held recently in Milwaukee, the Electric Railway and Light Company of that city gave its first exhibit of electrically heated household appliances.



A View of the Electric Booth from "Bright Place"

The center booth was secured and on it was mounted a five-foot ball wired with 375 4-candlepower lamps wh ch were flashed so as to present the appearance of a revolving sphere. The arches supporting the ball were studded with 10-candlepower lights; three signs forming a circle around the booth contained 400 2-candlepower lights and a 500-watt Mazda lamp in the center completed the illumination of the exhibit.

Four posts forming a square 10 feet apart, bore signs of the standard street size naming the aisles "Electric Avenue" and "Bright Place." This was featured in the newspaper advertising.

Every modern appliance was exhibited and thoroughly explained with the aid of eight attendants. Cookies were distributed, cut in the shape of an incandescent lamp and baked in an electric oven, the sides of which were of glass, permitting a full view of the operation. Marshmallows toasted in the oven assumed the proportions of a biscuit and were so popular that at times it was necessary to discontinue their distribution to avoid blockading the aisles. During the week of the show, a complete line of appliances was loaned to a hardware dealer to make a window display, resulting in a contract from the dealer for fans, owing to the numerous nquiries he had received.

A completely equipped electric range loaned and set up by the Company, was used in connection with a series of lectures on domestic science held in an adjacent hall and had an excellent effect among the audience.

The Milwaukee Company feel that the resulting interest and sales more than repaid them for the time and money expended in arranging and conducting the exhibition.

DOLLAR IDEAS

A Fire Sale Sign

JOHN G. McLAUGHLIN
Chief Clerk Potomac Electric Power Co.,
Washington, D. C.

It is very seldom that a city of any size does not have a fire sale going on at some time. Would it not be a good scheme for central stations to have an electric sign reading "FIRE SALE" to rent at such periods? The sign could be made portable and in such a manner that it would be easy to erect. In sales of this kind the merchants are usually willing to spend a little money for advertising and no doubt a sign of this kind could be rented without much trouble.

A Salesman's Commission Schedule

The Rules Governing Payment of Commission in Use by The Commonwealth Edison Co. of Chicago and The Denver Gas and Electric Co.

There are many opinions on the subject of the salesman's compensation—whether it should be straight salary, straight commission, or a combination of both. The straight salary is certainly the easiest of application and its champions claim that the man whose best work will not come at the call of his ambition and loyalty should be weeded out of the organization and that a commission is not needed if the salary be adequate. On the other hand, we well know that all the world rises to a bait and answers the spur of necessity, and that the spirit engendered by a contest for an actual and material reward ever produced beyond the power of a mere competition for honor and the record of accomplishment.

The difficulty has been to adjust the varied circumstances of the central station salesman's daily work to a basis of commission which would recognize both the "labor factor" of the different classes of business obtained, to do justice to the salesman, and the "profit factor" of the load it brings on the line, so that the company will not be paying the highest rate for the most undesirable business. A little study of the problem seems to demonstrate the justice of a compromise—a system of salary and commission—but the equity of such a system must depend absolutely on the schedule of credits obtaining and based both on the power factor, the load factor and the labor factor as represented by the skill and effort required to develop the sale.

This point was considered at some length in the report of the Committee on Functions of a Sales Department, which was presented before the recent convention of the N. E. L. A., and in the appendix the following commission schedules were cited as examples of the way two companies have met the situation with apparent satisfaction and success. These two commission schedules are printed below as being worthy of study and comparison in their application to the conditions in other properties. It will be noted that the Denver classification is arranged practically on the basis of the salesman's labor factor and the service cost, whereas the Chicago system grades the commissions according to the various classes of business obtained, as well, grouping them in relation to the load and power factors.

Commonwealth Edison Co., Chicago, Ill.

Credit will be given you for contracts taken by you in your district and bearing your name. If you have started a piece of business, and the same is afterwards signed up in the office, you will be given credit for it, provided it appears on your daily call sheets within two weeks previous to signing up contracts. Provided, also, that you have, within thirty days of signing contract for the business, obtained the signature of the general contract agent to an authorization blank giving you said credit.

Additional lights or power must be turned in on data slips, and said data slips must be turned in previous to connecting up, and appear on your daily report sheets within one month before connecting up. Solicitors will not be given credit for additional lights or power connected to the system unless the business has been worked up by him, and also the record of his having solicited this additional business must appear on his report sheet within one month previous to the time of notification of such additional business. Solicitors will not be given credit for additional lights or power where the customer, during the period of a time contract with the company, adds additional lights or power to our service.

Successors will be given credit for when one party moves out and the new party takes possession of the premises, if it appears on the report sheet of the solicitor that he has visited the premises of the consumer at any time within two weeks previous to the company's having received notice that the successor will use our service. In cases where the same business is turned over to a new party, or when the name is changed, no credit will be given unless at least twelve months have elapsed since the credit was last allowed. Where receivers take possession temporarily, and sign a letter or short form contract, no credit will be given.

No lighting solicitor will be given credit for

power over one horse-power taken on power contracts. No power solicitor will be given credit for light.

The day books will be open and available at all reasonable times, and the solicitors will have access to same and should see that all their contracts are placed to their credit.

No change will be allowed in books after an entry has been on the books over thirty days.

The term upon which commissions will be earned for each year will be as near as possible the calendar year—may run a day or two over or under. The year will, however, be the same for all solicitors.

The attention of solicitors is called to the bad practice which has prevailed of entering the amount of business covered by a contract at a much higher number of horse-power or lamps than has afterwards proven to have been connected. The checked up figures of installations are what govern, and the entering of more or less business in the preliminary booking will not work for or against the solicitor in the final accounting.

A commission of one dollar and fifty cents will be allowed for each flat rate arc lamp taken on a two years' contract. Said amount is all the credit which will be allowed for flat rate arc lamps.

A commission of one dollar and fifty cents will be allowed for each 240 watt flat rate tungsten cluster and one dollar for each 160 watt flat rate tungsten cluster taken on a two years' contract where the cluster replaces a gas arc. Where the cluster is put in under other conditions, the agent will be allowed a commission of one dollar for the 240 watt cluster and sixty-five cents for the 160 watt cluster. In case a contract for a 240 watt tungsten cluster is changed within twelve months to a 160 watt tungsten cluster, the agent who made the original contract will be penalized the difference in commission on these types of clusters.

A commission of fifty cents will be allowed for each 240 watt meter tungsten cluster and thirty-five cents for each 160 watt tungsten cluster taken on a two years' contract. This is applicable to lighting solicitors only, and will be figured entirely separately from the regular commission.

Sign solicitors will not be given credit for successors signed up within twelve months of the date of the original contract. In the case of a sign on which a commission has been paid, and which has been put out under the company's rental proposition, being discontinued within six months of the time of the connecting up of the said sign, then the sign solicitor making such a contract shall be penalized to the extent of 50 per cent of the commission allowed on said sign.

Classification of Business Governing Which Commissions Will Be Allowed Power.

Class No. 1.

5c. per Horse-Power.

Elevators.
Hoists and Conveyors.
Junk Dealers.
Grocery Store Motors.
Dentists' Motors and Apparatus.
Fire Pumps.
Unclassified.

Class No. 2.

10c. per Horse-Power.

Contractor's Motors.
Blacksmiths.
Carpet Cleaners.
Cement Mixing.
Foundries.
Jewelry Manufacturing.
Motors in Stores.
Butchers.
Brass Manufacturing.
Box Makers.
Bakers.
Clothing Manufacturing.
Machine Shops.
General Manufacturing.
Engraving and Printing.
House Pumps.
Stamping Manufacturing.
Macaroni Manufacturing.
Varnish Manufacturing.
Therapeutic Lamps.
Photo. Lamps.
Projector Lamps.
Plumbing and Pipe Fitting.
Rubber Manufacturing.
Spice Mills and Wholesale Grocers.
Stone Cutters.
Structural Steel.
Sheet Metal Manufacturing.
Newspapers.
Boiler Shops.

Class No. 3.

15c. per Horse-Power.

Electro-Plating.
Feather Cleaners.
Can Manufacturing.
Candy Manufacturers.
Biscuit Manufacturing.
Paint, Lead and Ink Manufacturers.
Boots and Shoes.
Knitting Mills.
Ice Cream Manufacturing.
Grain Elevators.
Seed Cleaners.
Glass Grinding.
Private Garage Charging.
Heating and Ventilating Blowers.
Silk Mills.
Screw Manufacturers.
Steel Mills.
Brick Yards.

Class No. 4.

20c. per Horse-Power.

Wood Working.
Refrigeration.
Flour Mills.
Furniture Manufacturing.
Breweries.
Tanneries.
Coopers.
Tobacco Manufacturing.

Woolen Mills.
Laundries.
Packing Houses.
Soap Manufacturers.
Cotton Mills.
Public Auto. Charging.
Electric Cooking and Heating.
Electro-Chemical Furnaces.
Twine Mills.
Wood Box Manufacturing.

Lighting.

Class No. 1.

1-2c. per 50-watt equivalent.

Churches.
Schools.

Class No. 2.

3-4c. per 50-watt equivalent.

Contractors on Buildings.
Business Offices.
House Furnishing Stores.
Drug Stores.
Wrecking Companies.
Flats and Apartments.
Social Settlements.
Unclassified.

Class No. 3.

1c. per 50-watt equivalent.

R. R. Ticket Offices.
Barns.
General Manufacturing.
Blacksmith Shops.
Publishers.
Summer Parks.
Coffee Stores.
Millinery Stores.
Jewelers.
Supply Houses.
Banks.
Apartment Building Halls.
Crockery and Glass Stores.
Hay and Grain.
Houses.
Art Stores.
Wholesale Houses.
Mail Order Houses.
Auto. Sales Stores.
Piano Stores and Music Houses.
Photographers.
Printers and Engravers.
Warehouses.
Stone Cutters.

Class No. 4.

1 1-4c. per 50-watt equivalent.

Shoe Stores.
Milk Depots.
Confectionery Stores.
Gents' Furnishings.
Cigar Stores.
Livery Stables.
Loan Firms.
Baths.
Office Building Halls.
Signs.
Garages.
Dress Makers.
Sweat Shops and Clothing Manufacturers.
Theatres.
Barber Shops.
Day Restaurants.
Clothing Stores.
Bakery Shops.
Hat Stores.
Meat Shops.
Foundries.
Carpenter Shops.
Dry Goods (Down-Town District).
Saloons and Liquor Stores.
Grocery Stores.
Book Stores.
Express Companies.
Small Hotels.
Clubs (Small).
Bill Boards.
Billiards and Bowling.
Florists.
Bird Stores.
Laundries.
Fruit Stores.
Paint Shops.
Hardware Stores.
Second Hand Dealers.
Machine Shops.
Department Stores.
Harness Shops.
Plumbing Shops.
Skating Rinks.
Rooming Houses.

Class No. 5.

1 1-2c. per 50-watt equivalent.

Public Halls and Assembly Halls.
Clubs (Large).
Hospitals.
Dry Goods (Outlying District).
Undertakers.
Breweries.
R. R. Freight Offices.
Restaurants (Day and Night).
Hotels (Large).
Commission Houses.
Tailor Shops.
Cleaners and Dyers.

Where a solicitor receives help from any officer, head of department, or employe of the company in securing business, he shall receive credit on the basis of not to exceed one-half of the commission allowed in the above schedules. In such cases the general contract agent shall be the judge as to what credit the solicitor shall receive for the business obtained.

Agents will not be penalized when the contract has been signed by an officer of the company or agent especially assigned to the work, provided such agent did not receive credit for the business when obtained. In case an especially assigned agent received credit for the business, he will be penalized for its loss.

Solicitors will be penalized 1-4c. per 50 watt equivalent to any business lost in their terri-

tory, with the exception that where any customer moves to another solicitor's district, and the business is secured in that district, then the solicitor shall not be penalized. It shall be the duty of the solicitor to show, before commission is allowed, that the business has been secured in another district.

In case a customer signs up for tungsten clusters and discontinues using the same any time before twelve months have elapsed from the signing of the contract, then the solicitor who originally signed the contract will be penalized at the rate of twenty-five cents per cluster, unless he succeeds in signing up the successor. This applies as well to flat rate arc lamps.

Where a solicitor has an assistant in his territory, the assistant shall receive 25 per cent of the commission allowed, and the solicitor shall receive 75 per cent commission.

Notwithstanding the amount of business contracted for by any solicitor, the commission earned by any one man shall not exceed $500 for the year's work. This does not apply to tungsten clusters on flat rates or guarantee meter basis, or to men soliciting exclusively for signs and contract arc lamps.

Records of the business taken by each solicitor during the year must be kept by him in this book, and solicitors are requested to make their entries as neatly as possible and to use the spaces provided for the purpose. Please state in the "Remarks" column whether the item entered is new business, successor, renewal of contract, or additional business.

Unless the solicitor is assigned to work by the general contract agent, his assistant, the power engineer or special agent, solicitors must confine their work to their own districts, and unless such assignment has been made no credit will be given to any solicitor for business taken outside of his district. In cases of mixed contracts, where two or more different men obtain credit for different portions of the business taken, it is expected that harmony and ordinary business courtesy will prevail among the different solicitors.

Solicitors must show on the data slips the class in which each customer belongs, otherwise they will be put in the Unclassified List. If errors are made in the classification, the solicitor shall receive credit for the business under Class No. 1 for both power and light, unless correction is authorized by the general contract agent.

This schedule is the property of the Commonwealth Edison Company, and must be turned in by the solicitor to the chief clerk at the end of each year, or before in the event of the solicitor leaving the department.

Denver System of Compansation, Salary and Commission

Class "A"	Additional consumption, either gas or electric (present consumers)	5 points
Class "B"	New contracts, gas or electric, where service was not previously in use	3 points
Class "BB"	Industrial Fuel gas	7 points
Class "C"	Replacing service or equipment for old or new party, where formerly in use	1½ points
Class "D"	Present users, changed to other address	1 point
	Outlining.	
Class "E"	Outlining on buildings	6 points
Class "F"	Outlining on present signs where flat against the building	5½ points
Class "G"	Outlining present projecting signs	5 points

"The above schedule shows different classifications arranged as to their relative value to the company. Take, for instance, Class 'A,' additional consumption. Let us assume that a consumer who is now using illuminating gas is persuaded to put in a gas range, and the estimated consumption upon that range is $20 per year, figured at 5 points, the representative is entitled to 100 points for securing this business. All other classifications are figured accordingly. A record is kept of the points secured by each representative, and at the end of the month it is determined what percentage each representative is entitled to, as compared with the total business secured. As an illustration of the above, let us assume that for the month of December there were 60,000 points of estimated business secured. We will further assume that one representative secured of that amount 6,000 points. That is, he produced 10 per cent of the estimated business. Now, let us assume that for the month of January the company has an increased gross revenue of $15,000, which we will say was due to natural causes and the work done by the representatives during the month of December.

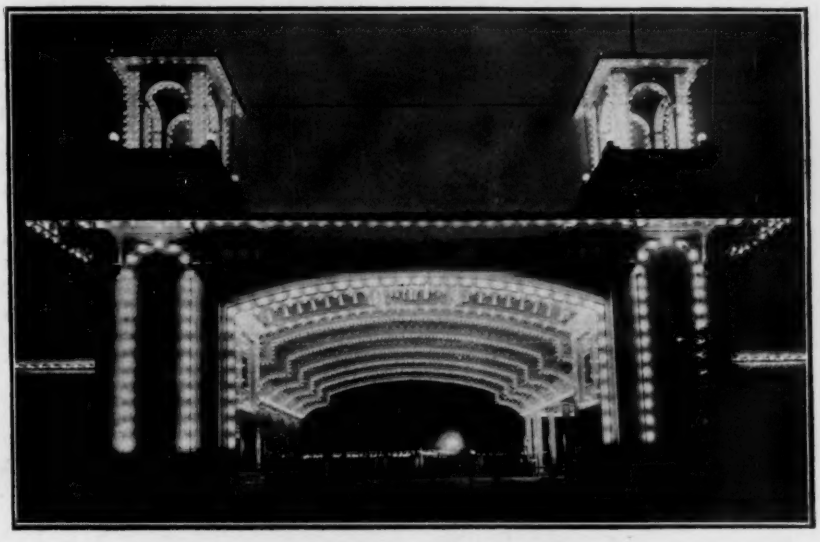
"We will now see how we are to pay the representatives. We will assume it is agreed by the company that the representatives are to have 50 per cent of the company's increased gross revenue as a bonus. This 5 per cent of $15,000, $750, is given them as bonus money, to be divided among them according to their percentage of the business secured. Thus, the representative above mentioned, having secured 10 per cent of the business in December, would be entitled to 10 per cent of the bonus money secured in January, namely, $75, which would be paid him February 5.

"In addition to the bonus, representatives are paid a flat salary of $60 per month. Thus you will see that this man would receive for his December work a salary of $60, plus a bonus of $75, or a total of $135.

"Observe that the work and business secured by the representative in the month of December ought to show in the company's increased revenue during the following month of January, and between the first and fifth of February, from the books we can determine the amount of increased revenue, therefore we are then able by the fifth of February to make settlement as outlined."

A Louisville (Ky.) Installation

One of the most effective lighting installations in the country is that of the Louisville Lighting Company at Fontaine Ferry Park in Louisville, Kentucky, the entrance of which is shown in the accompanying illustration. The front of the facade carries 750 lamps of four candle power. On the five arches and around the ten large oil paintings on each side are 1000 lamps of 8 candle power, the effect being both brilliant and in good taste. The park itself is served by the Louisville Lighting Company and over 10,000 lamps varying in size from 2 candle power to 16 candle power are used. The buildings are massive and the grounds covered with shade trees, the lamps being strung through the branches, giving an effect at once unique and charming.



The Entrance to Louisville's Summer Park

Electrical Conditions in Japan

Interesting information on the general condition of the electrical industry in Japan has been received from W. P. Chapman, formerly of New York, but for the past three years a traveler for the Holophane Company in the Flowery Kingdom.

While exact statistics are difficult to obtain, the following regarding the conditions in the three largest cities of the kingdom may be taken as fairly accurate:

In Tokyo, a city with a population of about 2,200,000, there are 116,000 houses using electric lights, the total number of lamps in use being 504,000, showing an average of less than 5 lights per house.

The total number of houses is estimated at 400,000, 29 per cent of which are electrically lighted.

Osaka, with a population of 1,230,000, had 140,000 houses with electric lights, using a total number of 370,000 lamps, which represents an average of less than 3 per house. There are 280,000 houses in the city, 50 per cent of which have electric lights.

Out of the 70,000 houses in Kyoto, a city with 440,000 inhabitants, 16,000, or 23 per cent, have electric lights, the total number of lamps being 60,000, an average of less than 4 lamps per house.

Mr. Chapman writes that the commercial methods of the electric light companies in Japan are rather crude and that there is a strong tendency to discourage any attempt to introduce new ideas in business-getting, the policy of the companies being a most conservative one.

Clever Festival Feature

A feature of the evening parade of the Aprilis Fiesta, a celebration recently held by the "Eighty-niners" of Oklahoma City, was the electric float carrying the Royal Party. The float, which was furnished by the Oklahoma Gas and Electric Company, consisted of a regulation one ton electric truck to which was added the batteries of two other delivery trucks. The vehi-

cle was completely studded with five watt 4-candlepower Mazda sign lamps, outlining the throne and canopy completely on the inside and outside, including the words "We Do," in 18-inch electric letters, being the recently adopted slogan of Oklahoma City.

Eight adults and ten children were on the float, which traversed six miles of the city streets in covering the route of the parade, crossing numerous railroad and street car tracks and encountering much rough paving. In spite of these facts, not a single lamp was broken or burned out at the end of the parade.

The throne and canopy were detachable and on arriving at the Auditorium where a ball was in progress, were taken to the stage, where wires and transformer were in readiness, and in a few seconds the lamps were burning.

Folder and Post Card in Hebrew

The Edison Electric Illuminating Company of Brooklyn has several times in the past issued advertising matter translated into foreign tongues and directed to certain classes of prospects. Both Hebrew and Chinese folders have been described and reproduced in past issues of *Selling Electricity*.

Another Hebrew folder recently mailed to a list of small clothing manufacturers of the class known as "sweat shops," sets forth a list of contemporary manufacturers who have installed electric power and whose establishments in consequence can no longer be so designated.

The Edison Company has added a further touch of efficiency to this advertisement by enclosing with it a return post card also printed in Hebrew. This gives absolute assurance of a clear understanding of the purpose of the post card and that it does not carry any obligation on the part of the prospect.

Data on Electric Signs

The bulletin entitled "Data on Electric Signs," which was compiled and published by the Committee on Electric Advertising and distributed by the Commercial Section of the N. E. L. A. at the recent convention is an interesting and valuable addition to the central station salesman's data-book. There are 39 pages of data and argument, illustrated with 57 reproduced photographs and diagrams. There is happily a total absence of mere "conversation" and a wealth of actual assistance. Such details as Location, Use of Color, Lamps and Wiring, How to Order Lamps, Data on Transformers, How to Figure Connected Load, Dimensions of Letters, Hanging of Signs, Flashers, etc. are covered in a practical and profitable manner and with the many illustrations as proof, it makes a strong argument for use on the firing line.

Central Station Illuminating Engineering*

Department Work and Methods Applied by the Denver Gas & Electric Co.

By O. F. Oehlmann, Illuminating Engineer Denver Gas & Electric Co., Denver, Colo.

The illuminating engineering department of The Denver Gas and Electric Company, consists of an illuminating engineer and his assistant. The illuminating engineer specifies the amount of illumination, number of openings or units, and style of lighting, deciding whether it shall be gas or electric, and the kind of either, and meets and advises with all

O. F. Oehlmann

consumers. The assistant does all architectural drafting, fixture designing, writes all wiring specifications, and makes and keeps all records pertaining to the various consumers, their wants and complaints.

This department has an office where architects may come for information, contractors to estimate jobs and consumers to discuss store or residence lighting, for better and more satisfactory illumination. In this office are samples of the various kinds of lamps, both gas and electric, as well as burners, shades and reflectors. These lamps and shades are not connected for service, nor is it intended to make a demonstration of what any one lamp will do, but they are simply used to explain to consumers why lamps, shades, etc., are built as they are, to explain why a tungsten lamp must be handled carefully, why a gas mantle is to be protected from rough usage, why some reflectors are more efficient than others, why a shade is necessary at all, and also to explain a few processes of the manufacture of the various lighting instruments. Everyone is interested; even explaining where the candle-power is measured from on a 16-cp. carbon lamp excites much interest, and nine out of ten consumers seem surprised that 16 candle-power does not mean 16 cp. end-on.

There are a great many such little demonstrations that are so simple and create so great an impression that this method has been found better than requiring a consumer to look into a set of booths showing comparison of good and bad illumination. Existing conditions on the street are far better demonstrations than a set of rooms or booths built and lighted under ideal conditions. It is much easier to have a consumer visit a certain store to view the system used and allow him to draw a comparison; and often a new idea is worked out on the sidewalk that gives a pleasing originality to the scheme of illumination when completed. If there were ideal conditions in each store and residence, then a set of model rooms illuminated properly would be most valuable.

The central station illuminating engineer learns that his work is to "hold the business." The result is that the illuminating engineering department finds that it must sell light for as many hours out of the twenty-four as possible, in order to widen the peak load, and to the same consumer, for as many years as possible. Thus the peak should be widened until there is no peak, and the station in-

*Abstract of Paper read before the Illuminating Engineering Society.

vestment, covering mains, services, meters, etc., should be kept in actual use, during the approximate life of the station installation.

The illuminating engineering department of a central station is engaged in a work different from that of the consulting engineer, or that of the laboratory engineer. The consulting engineer is an authority in lamps, shades, effects and results. The laboratory engineer is all of this and in addition is the inventor for the consulting engineer. The illuminating engineer for the central station must try, when advisable, to put into application all of the ideas of the former and the inventions of the latter, and even this is the easiest part of the work.

The consulting engineers are arranging from time to time formulas for figuring densities of illumination that simplify the work of the artist as he drafts plans and specifications for a proposed lighting installation.

A call is then made on the consumer by a member of the illuminating engineering department, who discusses with him the reasons for his complaint. He is offered the services of the illuminating engineering department free of cost. It is explained to him that if he accepts the services of the department his place of business will be measured and a drawing of his store will be made for illustrating a suggestion or a new system of illumination.

It is often found that the consumer's lighting system is at present just as good as it has ever been, but owing to the fact that his neighbors have improved their systems, his installation seems to have deteriorated. Frequently no difficulty is experienced in holding the business, even when the complaint is based on a high bill, for the improved lamps often make it possible to give a consumer twice, and even three times, the illumination he had obtained previously.

When the consumer consents to have the illuminating engineering department measure his store and make suggestions for better illumination, a drawing is made showing all of the walls, windows, doors, hallways, show-windows, etc. Then if the consumer contemplates any changes in the rooms or building a note is made of them and often they are arranged for on the drawing if the changes are to be made immediately. In case there is sufficient time the openings for the lamps are so arranged that when the building is changed the proper system will be in readiness. The openings that are made in contemplation of changes are plugged and no fixtures are installed. The drawings and specifications are submitted to the consumer and, if the plans are accepted, bids are asked on the work and taken to the consumer, and the contractor is thus selected. The work of installation is superintended by the illuminating engineering department until completed and accepted by the consumer. When the new lighting system is placed in operation the central station reaps the harvest of the work of the illuminating engineering department.

No matter how bitter he may have been in his complaints, almost invariably a consumer will become very much enthused over the improved appearance of his store; he can then easily be induced to step outside of his store and compare it with the improved interior. He does not wait to be coaxed, but usually says, "What can we do about those windows and that sign?" It is not the actual amount of money the consumer pays that interests him, but how much he gets for his money. When, by a rearrangement or a new system, the illuminating engineering department gives him three times as much illumination as before, the consumer is glad to pay the bill; the illuminating engineering department has held the business, and the consumer becomes immediately a prospective consumer for better window lighting and sign advertising.

A record is kept of the work, by taking a small kodak picture of the drawing and pasting it to a reference card, which is filed for future use.

ELECTRICAL PROGRESS

Industrial Lighting Issue

This picture, taken at 9.30 p. m., shows what can be done by modern scientific illumination in a printiag plant.

PUBLISHED BY
THE RAE COMPANY
17 MADISON AVE. NEW YORK

AUGUST SUPPLEMENT TO "SELLING ELECTRICITY"

Copyright, 1911, by The Rae Company

3-WAY SAVING
by the Holophane System

The Holophane System of Illumination is simply the *scientific management* of light.

It saves money 3 ways—

1 It saves money in the cost of the light itself, by practically cutting in half the amount of current necessary to secure a given amount of illumination.

2 It saves money in the cost of labor, by reducing the amount of waste time. This item will vary from 2% to 4% of your payroll.

3 It saves money in the cost of material by reducing spoilage, accidents and "seconds." We have frequently reduced this item 25% in large mills.

The Holophane System of Illumination consists in the scientific arrangement of light sources, and in equipping them with scientifically-designed reflectors.

We have installed the System in the largest shoe factories, the largest textile and knitting mills, the largest automobile plants. We have also equipped small shops of all kinds. In *every* case, large or small, the results have proven our claims.

The Holophane System is inexpensive. It pays for itself frequently in a single month. If you want your plant and your workmen to be efficient *all* day and *every* day, investigate.

HOLOPHANE COMPANY

Sales Department:

NEWARK, OHIO

New York Boston Philadelphia Chicago San Francisco London

Holophane Company, Ltd., 62 Front St., W., Toronto, Canada

Avoid imitations. Cheap shades are sometimes offered which *look* like Holophane but *act* liked etched glass.

Electrical Progress

A Small Magazine Preaching The Popular Application of Electricity

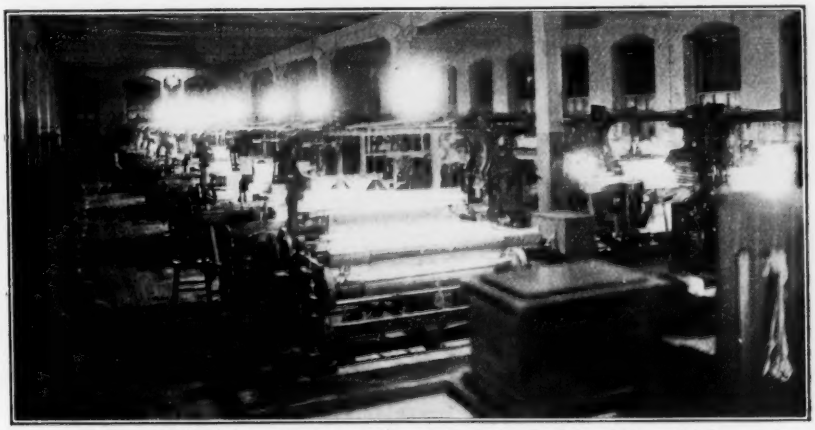
Industrial Lighting Issue

The Mathematics of Lighting

How the Experts Figure the Expense of Inadequate Illumination

Manufacturers today devote a great deal of attention to the cost of the lighting *equipment* and not enough attention to the underlying *effect of the lighting* in dollars and cents.

A factory, shop or mill operates by artificial light on an average about 500 hours each year. Under ordinary conditions, the amount of work actually produced under artificial light is between 12 per cent and 20 per cent less than is produced under daylight. These facts mean that 2 per cent of the output is cut off by the after-dark work; in other words, the plant, in effect, runs from six to ten whole days every year with absolutely no output. With this fault corrected a textile mill, for example, could get 102 1-2 yards of cloth for every 100 yards produced now, and with no added expense for investment, overhead expenses or depreciation.



In a textile mill practically all the spoilage is due to the operative "not seeing" the mistake until it has gone by. Good lighting, such as here shown, saves this spoilage.

Viewed from any angle, these figures are astonishing. Reduced to hours, the lost time amounts to between 60 and 100 hours per year per operative. The manager of a prominent silk mill has figured that, with 1000 looms, this means from 60,000 to 100,000 loom-

hours wasted annually, so that 20 to 30 looms are worn out each year without the production of a yard of cloth. Besides this, the power to run these looms is wasted, which, if electric current costs 10 cents per kilowatt-hour means $900,000 a year.

The facts upon which these figures are based are easily verified. The 500-hour estimate of dark hours is only an hour and forty minutes per day, 300 days per year, which is a fairly conservative average. As to the percentage of operatives' time lost directly attributable to artificial lighting, an inspector with a check pad can determine the exact figure in a very short time.

This shows why the workman tires quickly when working under bad light. The constant glare of the bare lamp soon ruins his eyesight.

It has been stated by a well-known authority that 75 per cent of the errors and accidents in industrial plants happen after dark. This he attributes to the natural weariness of the operatives towards the close of the day, but one of the chief reasons is—inadequate lighting.

In general, industrial lighting equipment consists of carbon lamps in flat or cone-shaped tin reflectors. As a rule, these lights are hung close to the work so that certain parts of the machines are in shadow, necessitating the moving of the lamp to make a close inspection, set a tool, or correct a defect. This takes time, and results in a multiplication of the small but important and costly defects which are avoided only by watchfulness and sharp eyesight. And when it is remembered that this handicap of poor lighting facilities comes at a time when the operative is tired out by six or eight hours of work, the estimate of 12 per cent loss in efficiency is indeed conservative.

There is no excuse for this condition. Artificial light instead of being a handicap should be, and may be, an aid—an encouragement to tired eyes and a stimulant to tired nerves. Good light consists of getting a reasonable intensity of illumination, no glare, an absence of shadows and as near as possible to daylight color-value. Where the whole working surface of the machine is evenly illuminated, there is a stimulant to faster and better work.

By putting on a proper shade, a lamp only half as big gives much more light on the work, saves the workman's eyes and results in greater output.

Light as a Lubricant

The Practical and Economic Reasons Why Good Illumination Pays

No man quarrels with the expense of oiling his machinery. He may think the price of the oil itself too high, but the idea of not lubricating his costly and complex gears and bearings never suggests itself. There is no possible comparison between this expenditure for oil and the damage which would follow on the heels of dry gears and hot bearings. The shop or factory man buys the best of oil without hesitation. He knows that the efficiency of his plant depends upon the proper performance of his machines.

Probably 75 per cent of the light of this lamp is wasted: it shines everywhere but on the work. This means lost time, poor work, accidents.

This shows how the light is saved by a reflector. At the same time the workman's eyes are relieved of strain and glare.

Is it any less important to provide a lubricant for the men who operate the machinery and are far more susceptible to obstructing influences?

You purchase a piece of machinery complete and perfect, yet to enjoy its full value you must supply oil. You hire a man and purchase his day's work, but to secure his full efficiency, and the greatest benefit to you, it is absolutely necessary to provide working conditions which will assist him to produce the maximum output—in other words—lubrication. For instance, in the winter time you heat your mill, shop, or factory, though it takes money from the profits, because you know that cold fingers make slow work, and that a man can't do his best unless he is in bodily comfort. For the same reason you provide light, because a man can't work unless he can see. This is the great all-year-round lubricant. But did it ever occur to you that the very man who would scoff at the idea of using cheap, low-grade oil on his machines is very often content to let his men work with just "enough light to see by"?

There's a difference between light and illumination, just as there is between a solid stream of water and a spray, or as there is between good and bad oils. Illumination, the great industrial lubricant, means light on the object and not in the eye. It means an absence of the glare that wearies the brain, a concentrated illumination on the work itself, so that it becomes actually *the easiest thing for the eyes to watch*.

The man who does the best work is the man sound in mind and body. Where there is effort to see distinctly there is eye strain. Eye strain and the headache that follows are dead weights on vitality, and a brake on efficiency and output.

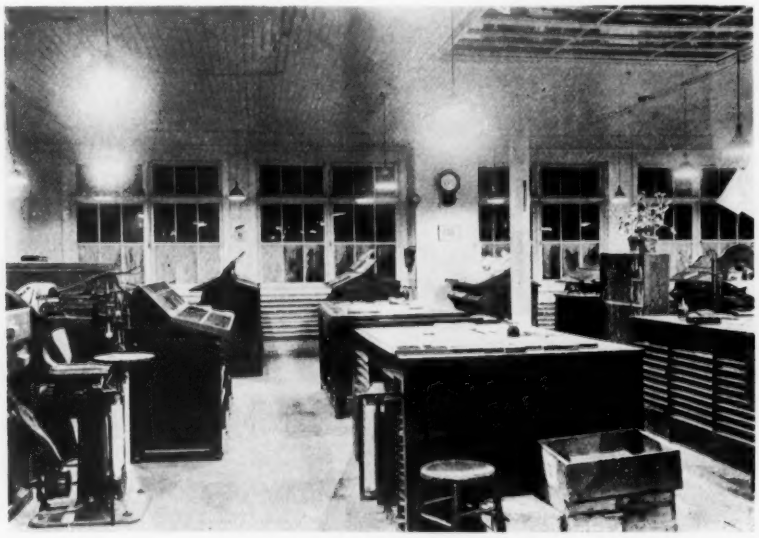
In the shop, the mill and the factory the man and the tool he works at are both cogs in the one big machine. Why oil the one and force the other to work against the friction of poor light?

A Practical Example

Print Shop Installation Shows Need and Benefits of Adequate Illumination

In no other establishment are the requirements for lighting more exacting than in a printing shop. This is equally true of the composing room, press room and office. The reason is that printers work a greater part of the time under a high tension and are consequently even more affected by surrounding conditions than are workmen in other trades.

An excellent example of modern methods of illumination, applied to a printing plant, is shown in the installation at the plant of the Phelps Publishing Company, of Springfield, Mass., publishers of *Good Housekeeping* and *Farm and Home*.



In the printing office, good light is essential to good work. In this plant, one of the largest in New England, the cases and presses and bindery are as well lighted by day as by night.

The building is a huge structure of the mill type, 280 feet long by 105 feet wide, and 8 stories high. Each floor is supported by columns set in 20-foot centres, making 5 bays across and 14 bays lengthwise, or 70 bays on each floor. There are 400 square feet of surface in each bay and each is lighted by a 4-light fixture. There are 560 of these fixtures, which are 22 inches from ceiling to lamp centre, 11 feet from lamp centre to floor, and have a 20-inch spread.

These fixtures are equipped with bowl-type Holophane glass reflectors—of which there are 2240 in all. The lamps are 40-watt and 60-watt tungsten or Mazda. No auxiliary illumination is used over the type cases, where the lighting requirements are especially severe, nor over the make-up stones. Of course, a certain amount of auxiliary lighting is necessary in the press rooms, such as under the feed boards of the presses and over the boards upon which the printed sheets are delivered, but even here the hand lamp is little used and the general illumination of the room is depended upon.

The illustration shows the press room and was made from a photograph taken solely by the artificial illumination. The absence of shadows is especially noticeable.

The same system of lighting is used in the offices and the entire equipment has proven highly successful and is an important factor in the saving of time and labor.

An equipment, such as described

above, will cost about one-half as much for maintenance as systems such as were installed 5 or 6 years ago, showing the great advances that have been made in the past few years in industrial lighting and the economy of installing modern equipment.

Many printing shops are now working with a lighting equipment which through its inadequacy means a daily loss in time, money and the efficiency of workmen, when a modern installation would result in a saving in all three.

Poor Lighting Expensive to Manufacturers

Inadequate shop lighting is wasteful for at least four reasons, any one of which should be of sufficient importance to warrant an overhauling of the existing lighting methods or even the installation of an entirely new equipment of shop lights, according to Albert Scheible, in *Popular Electricity* for July.

Poor light is responsible for a great deal of wasted time, for any employee, no matter how quick, naturally cannot work at his normal speed by a light that makes him uncertain as to what he is doing. He frequently has to go close to a window or light when he wants to get an exact measurement, which means more lost time, for which the employer has to pay.

At the same time, says Mr. Scheible, poor lighting leads to less accurate work, for unless the operatives have ample light on their work, irregularities and defects are sure to creep in. This results in a larger quantity of faulty goods, or "seconds," which frequently must be sold at or below the bare cost of manufacture and if the workmen are blamed for these defects they grow restless and dissatisfied.

Poor shop lighting, too, is often responsible for accidents, and a few dollars skimped on the lighting bill has frequently resulted in accidents for which juries have returned verdicts running into thousands of dollars.

Concluding, Mr. Scheible points out that poor lighting superannuates men before their time, as in many instances shop superintendents judge largely from the workman's eyesight, which will make a poorer showing for him in an imperfectly lighted shop than in one that is well illuminated. Besides, faulty lighting in itself helps

If general illumination is desired, hang the lamps well above the machines and near enough together so as to avoid heavy shadows

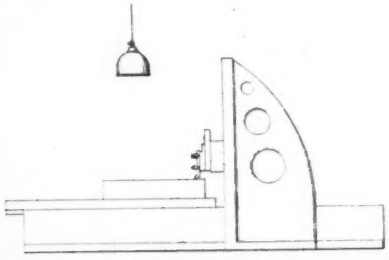
to spoil the eyes of the men, thereby tending to force out the very men whose experience and judgment make them valuable to their employers.

How to Get Good Lighting

Details of Successful Methods in Use in Modern Machine Shops

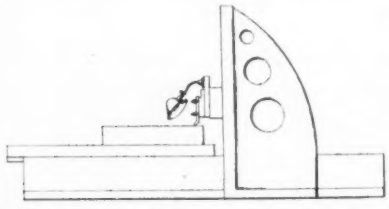
There are three kinds of lighting adapted to industrial plants—local lighting, group lighting and general lighting.

General lighting is where a number of units are hung high above the floor so that the entire space is evenly illuminated. This is, of course, the most desirable method, from the standpoint of illuminating results, but is not always practical. If work is to be done all over the room, as on an erecting floor, sorting tables or similar place, general illumination is both necessary and economical. Where work is restricted to single machines or to groups of machines, one of the other methods is to be preferred.

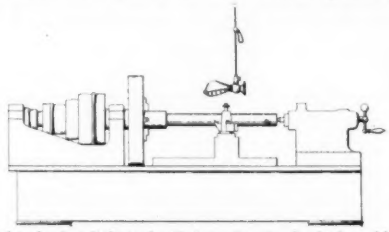


If general illumination is desired, hang the lamps well above the machines and near enough together so as to avoid heavy shadows.

Group lighting is so called from the fact that a single light (or several lights) are used to illuminate groups of machines, such as spinners in a textile mill, shapers in a machine shop, or many types of knitting machines. In such a case, the lights should be so arranged that there are few shadows and so that the operative will be able to see any part of the work quickly and without effort. As a general rule, the units are hung well above the floor when group lighting is employed.

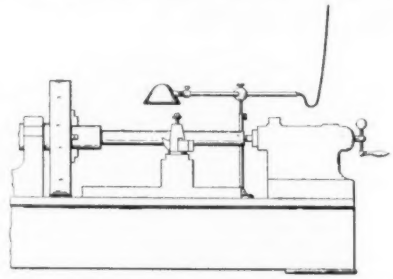


Frequently it is desirable to affix the light to the moving part of the machine as in this case. Flexible shafting is available for the purpose that can be bent in any shape. A small lamp gives all the light required for this service.



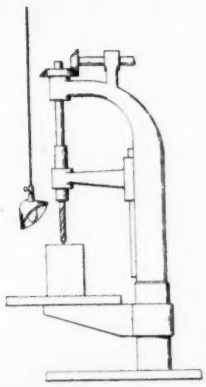
A handy shop light is the "balanced socket," which enables the lamp to be hung sideways. The balance weight also serves as a standard so the lamp may be set upon the bench or machine.

Local, or individual lighting, is the most common method now used, and while not the best for many kinds of work must be resorted to frequently. The lamps in such case are hung close to the work and the main point is to properly shade the light so it will not shine in the eyes of the operative. "Light on the work—not in the eye" is the one great rule for local lighting. If that rule is followed, the results are pretty sure to be both economical and satisfactory.



Another method of attaching the light to the machine. Here a stiff arm is used with a screw clamp that holds the light in the desired position.

In choosing reflectors for any industrial lighting, remember that the object is to illuminate the work. The average man, when asked his opinion of a lighting unit, will look at the light; the expert, when asked his opinion, will

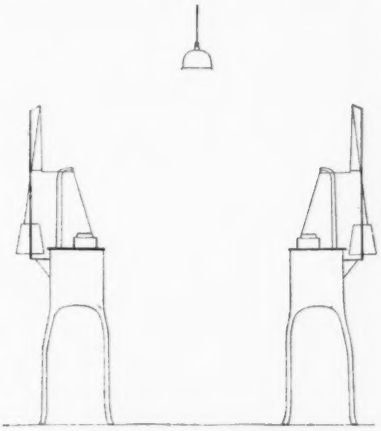


Local lighting in which a reflector cut on an angle is employed to concentrate the light at the exact spot where the tool is cutting.

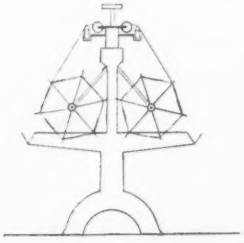
look at objects under the light. It makes no difference how brilliant a light is, if the proper amount of illumination does not shine downward, the light is not going to be satisfactory. A great many reflectors simply cut off part of the light. This is not desirable. What you want is not less light but more, and the reflector is employed not only to shade the operatives' eyes, but to re-direct the light into useful directions. Therefore, use efficient reflectors.

The size of the lamp is also important. Many proprietors of industrial plants desire a big, brilliant unit. In certain cases this may be best, but it must be remembered that a large unit throws a dense, black shadow, and such shadows detract from the efficiency of the workman. If practicable, use a larger number of smaller units. You will not get the glare and brilliance, but you will get even, shadowless illumination which does not fatigue the delicate muscles of the eye and which enables the workman to work faster, longer, with less spoilage and with greater personal satisfaction.

This matter of illumination is simply a problem of profit and loss. It is not good business to save on the equipment and lose in wages. You realize this, if you are a manager of a plant: you know that high-speed automatic machines cost more than slower, less productive equipment. But you also know that the better equipment pays for itself in wages saved and in the greater profit you make.



Another form of group lighting in which a single light is sufficient for four machines. The reason this is possible is because the lights on either side break up the shadows.

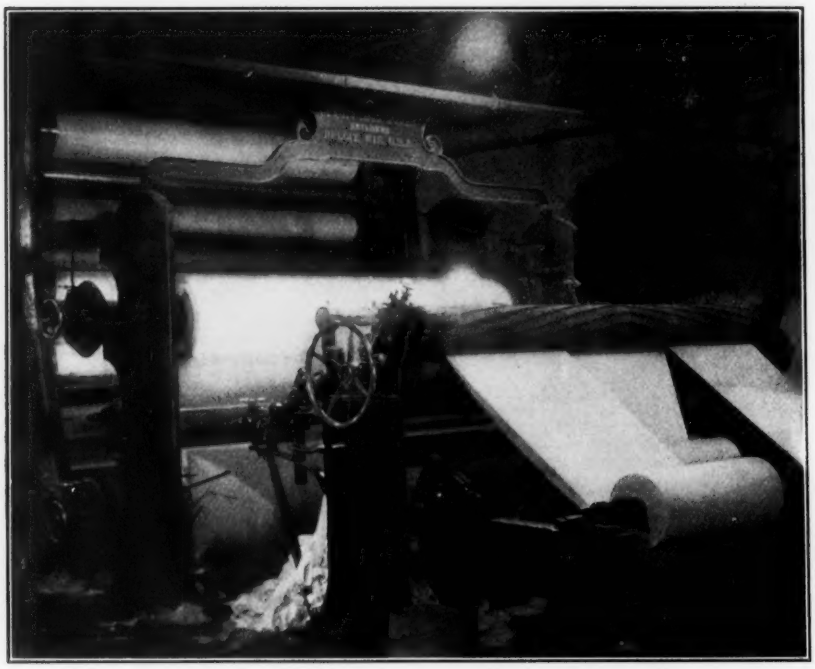


An example of group lighting of a spinning machine. (End view.) Here a row of lights are used directly over a long machine. The light falls so the operative does not cast any shadows on the work as she makes her inspection.

It is the same with lighting. The lighting equipment which is scientifically designed, according to modern "scientific management" principles, results in greater output, fewer accidents, higher grade of product. Therefore, do not skimp on the lighting any more than you would skimp on any other machine.

The Influence of Lighting on Factory Output

Investigations recently made by the Committee on Ventilation, Heating and Lighting, of the National Association of Manufacturers, have disclosed some interesting facts regarding the effect of good or bad illumination in manufacturing plants not only as it applies to the efficiency of the workmen, but in its influence on the quality and quantity of the output.



The fundamental principles of good illumination—absence of glare, absence of shadows and strong, evenly distributed light—are here shown to the best advantage. This paper mill is better lighted by night than by day.

The committee sent a list of questions to several thousand manufacturers and much valuable data was received in the answers.

The answers received to the questions about lighting make clear in the main that the question of good artificial light is one that has not been given very careful consideration by manufacturers in the past, although a number of manufacturers show by their replies that they are now keenly alive to the importance of the subject.

A manufacturer of caramels writes that proper lighting is absolutely necessary to get the best results and a larger production.

A silk manufacturer states that it is of great benefit to the work to have well-lighted, well-ventilated and properly heated shops and that even if this were not necessary on account of the effect on output, they would still have them for the comfort of the employees.

A manufacturer of jewelry, a hardware dealer and a motor company are among others that reported that their output was greatly affected by poor light.

Summing up the principal defects which are ordinarily to be found in the lighting systems of factories, the committee says in part:

"In very many cases, there is insufficient illumination. This condition, however, is rapidly improving as the result of the advent of lamps of various

kinds of much higher efficiency than anything that has been available in the past. It is a fact, however, that in many cases where the absolute amount of illumination is sufficient, the light is nevertheless exceedingly unsatisfactory for various reasons. If the light falls on the work from the wrong direction, not only is there great liability that awkward shadows of the machinery or of the operative's body will interfere with the work, but in addition, if the light is reflected from polished portions of the machinery or from the work itself directly into the eyes of the operative, the results will be anything but satisfactory. Under these conditions although some operatives may receive a very satisfactory light, others are extremely likely to get the light in the wrong direction.

"Another very common defect in factory lighting is the exposure of the eyes of the workers to the direct beams of very brilliant lamps. The use of bare incandescent lamps is almost invariably inefficient, and dangerous.

"It is true, also, that as the result of using the eyes under improper conditions troubles of various kinds, such as headache, nausea, etc., are often induced, although commonly ascribed to some other cause, and these troubles not only reduce the efficiency of the operative while working, but lead to absences which might otherwise be avoided."

Still another defect often seen is either too great or too little contrast in the illumination of rooms. The former of these is by far the more common, and is not only a great strain on the eyes, but has as well a psychologically depressing effect on the workers.

The committee also found that a great waste is often permitted to occur, owing to a failure to keep lamps and equipment clean, and they cite the case of a typewriter company, which stated that their incandescent lamps were cleaned and polished once a week.

In conclusion, the report advised that the committee believed that the subject of artificial illumination is one of great importance and well worth careful investigation.

Which Would You Rather Be?

If you were one of these two men would you change places with the other for a difference of half a cent an hour? The comfort alone is worth many times that amount, to say nothing of the difference it makes with your disposition and the work you can do. The same thing is true of your employees, and

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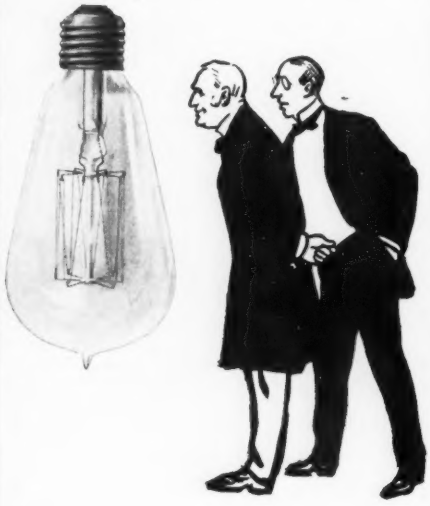
The Lamp That Lacks a Label



Your dealer may tell you "All lamps are alike."

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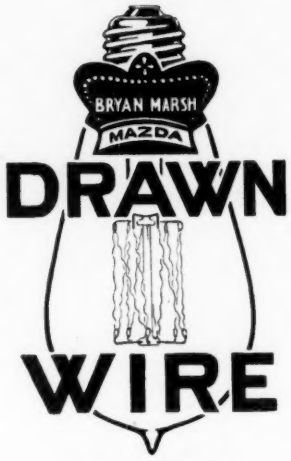

MAZDA LAMP.

They give the greatest amount of light for the maximum number of hours, and the drawn wire filaments are proof against shocks that would ruin the old style tungsten lamp.

We are the largest exclusive manufacturers of incandescent lamps in the world and no one even claims to make better lamps.

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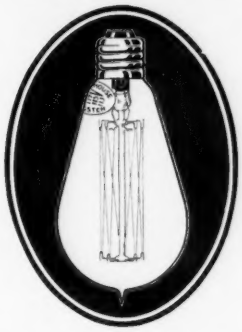
Rugged Westinghouse WIRE TYPE Tungsten Lamps Cost You No More Than Other Tungsten Lamps



IT'S the service the lamp gives you that counts—that makes the difference in cost between one lamp and another.

The splendid service throughout long life that you get from Westinghouse WIRE TYPE Tungstens makes them the cheapest lamps that you can buy.

Your dealer can sell you Westinghouse WIRE TYPE Tungstens at the same price as other Tungstens and make the same profit. Therefore, you do not favor him by accepting a substitute.

Insist upon Westinghouse WIRE TYPE—the original continuous filament Tungsten—the one with a record back of it. Send for folder showing all sizes.

Illuminating Engineering Consultation Free

DOES your lighting system pay dividends? Mail us a description of it and our Illuminating Engineering Department, in charge of Mr. Norman Macbeth, will either tell you that it cannot be improved or advise what improvements should be made, and how much they will save you. In either case there will be no charge. Our Illuminating Engineering service is free to everybody who is interested in scientific illumination.

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Dome ABolite

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mark a new era in the lighting equipment of shops and factories. They embody a new principle in both design and manufacture of industrial lighting equipment.

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is a combination socket, shade-holder, insulating joint and reflector. It does away with the separable holder. It makes unnecessary the installation of various types of reflectors as either intensive or extensive types of distribution can be secured from a single unit by simply changing the positioning device. Finally,

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is simplicity personified. It was designed to eliminate the many parts heretofore necessary in building up a successful industrial lighting unit. You no longer need sockets, shade-holders and shade: buy ABolites and get the whole equipment in a single unit.

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N B EFFICIENCY ENGINEERING. In connection with this line, The Adams-Bagnall Electric Company has established a department of Efficiency Engineering for the purpose of studying industrial conditions and co-operating with industrial managers in bringing their illumination to a plane where labor efficiency and factory output will be greatly increased.

The work of this department is part of the general efficiency movement just launched, and we feel that the initiative taken by this Company in the establishment of such a department will do much toward moving general industrial lighting conditions.

Central Station Finance in its Application to the Central Station Employee

The Second of a Series of Articles on the Investment Opportunity of Central Station Securities from the Point of View of the Small Saver.

By H. F. McConnell of Williams, McConnell & Coleman, New York

Have you ever realized what a difference it makes in your mental attitude, as soon as you actually own a piece of land? When you say to a young man, "What does property sell for in this town?" and he replies, "Why, I don't know, I think they get about $100 a front foot on Main St."—You can be pretty sure that that young man has not invested any money in real estate. For just as soon as he actually owns a lot, even though it is mortgaged, he becomes a tax payer and feels himself a solid citizen. Immediately he finds a newly awakened interest in following the real estate transactions and taking a voice in local affairs which tend to influence the growth of the town and the enhancement of property values.

For the same reason the man who has no money invested in corporate securities seldom takes any interest in the reports of the stock market. He looks upon stocks and bonds entirely in the abstract or as a gambling proposition until that time when a personal, concrete application enlists his interest and enthusiasm. Then he discovers that their names and figures represent not paper certificates but busy human organizations engaged in commercial enterprise partly for his benefit. Part of that industry belongs to him.

In just the same measure, the central station salesman who owns stock, however little, in the company for which he works, or in any other similar public utility, finds himself lifted above the confines of his own daily work to a broader interest and participation in the success of the business itself. His point of view becomes broader and more practical as he begins to consider the margin of profit as of more importance in his day's work than the volume of sales. He becomes of greater value to his company and to himself, by the very fact that his personal interest makes him see a proper relationship in the proportions of salaries and dividends.

The average central station salesman has given little thought to such investments simply because he has assumed that it would necessarily entail a considerable sum of ready money. In the first of this series of articles, I think it was made clear that $50.00 is none too small to finance such a first investment, and that it is not only a safer but a far more remunerative and intelligent method of saving than the savings bank or the building and loan association. The last article dealt with the subject of investment from a general standpoint. We will now discuss the opportunities available to the young man who is saving a little money.

Of course, the most important step is to establish the saving habit, no matter on how small a scale. Then place your savings where they will be interesting as well as profitable. In making an investment, the most important distinction is that between promises to pay and equities. The former is represented by a bond or mortgage and the purchaser knows the obligation will be redeemed when due. The latter is represented by the capital stock of a corporation, sharing in the assets and profits after fixed charges have been paid. In other words, a

Arrangements have been made for an Inquiry Department in connection with these articles and Mr. McConnell will be pleased to give quotations, information and any data obtainable on any security in which our subscribers may be interested.

Each inquiry should be mailed to Selling Electricity, Financial Dept. and signed by the writer, but only the initials will appear in the answer which will be published the following month, space permitting.—[*Editor.*

bond holder is a creditor and a stock holder a partner in an incorporated business. The investor just graduated from the savings bank habit, naturally prefers a bond on account of the greater degree of safety, and probably for a trust fund this class of securities is preferable. The men who "do things," however, are the partners in large and small enterprises through stock ownership.

The central station man's business is to sell electricity, and he naturally takes an interest in it. Then, why shouldn't he *buy* an interest? If he were a railroad man he would probably buy New York Central stock (supposing he could get it) just as he would buy an interest in some theatre if he were an actor. So, being a central station man, the obvious thing for him to put his money into is electric stock, or in other words, public utility securities. If you have sufficient faith in the people for whom you work to face the future (with probably marriage and the purchase of a home) on the prospect of the salary paid you, would it not be a better earning proposition to become a partner in the business through stock ownership and obtain the rights and benefits generally enjoyed by outsiders?

A corporation means as much to the man with one share of stock as to the man with a thousand shares, often more. Suppose you go to your dealer to buy a pair of shoes and he succeeds in fitting you equally well in two different makes of shoes, so that you are unable to decide which pair to take. You ask his opinion. "Well," he says, "I think so well of this shoe that I bought some stock in the company that makes it. The other shoe, however, is probably as good."

Which pair do you buy?

Of course; anybody would. And for the same reason it would be easier for you to sell electricity if you owned electric stocks.

As all the readers of *Selling Electricity* are in close touch with the earnings of their own and similar concerns, it is unnecessary to go into that feature. It may be pertinent, however, to call attention to the fact that during the worst period of depression, from November 1, 1907, to March 1, 1908, compiled reports from over two hundred lighting companies showed an increase in business of 10.7 per cent, proving that there is no such thing as "hard times" in the gas and electric business. These facts prove that the success of stock investment in this line is entirely in the management, and the central station man, above all others, should be in a position equal to any of the so-called "insiders," for his knowledge of his own company, its standing and prospects should be an unfailing barometer from an investing standpoint.

Possibly the strongest argument in favor of the central station salesman putting his savings into the stocks or bonds of a central station is this: Buying public utility securities will help you to get a better working knowledge of the inside of your business. All corporations, especially the larger ones, publish for the benefit of their stockholders reports on the condition of the company, together with plans for the enlarging and improvement of the equipment, details of the business system, and many other points of a like nature. Now, if these things are of value to the ordinary stockholder, of how much more value would they be to the man in the selling end of the business. Through them you get an insight into the larger financial workings of the electrical business which years of experience would scarcely give you.

The writer prefers the securities of a holding company to those of an individual company for the following reasons: First,—the increased safety of the combined investment; second,—savings on purchase by expert advice and in large quantities; third,—bonds and preferred stock associated with a holding company are almost equivalent to a guarantee; fourth,—securities of an individual company generally do not earn as much, nor on the same earnings will they sell so high. An association of companies is sure to add, under simi-

lar conditions, a wider and higher market for its securities.

From the day the young central station man first starts out to sell electricity, the business men of his town have their eye on him, just as they have on every other promising young man. They not only know what he is worth to himself and to the people he is working for, but they can come pretty near telling just how he spends his time and money outside of business hours. A young man is judged not alone by the company he keeps, he is judged also by the money he keeps and the use he makes of that money. For this reason the young central station man who puts his money into public utilities securities will find that, though he may not be rated in Dun's or Bradstreet's, he will soon have a mighty good rating among his friends and business acquaintances, when it becomes known that he is an investor, and not merely a man with a savings bank account.

The American Light & Traction Company is the pioneer of gas and electric holding companies, and hundreds of our readers can look back a few years and recollect the common stock selling below 75. Consider this security from an investment point of view. Five years ago the success of this company was assured, and any employee that took the trouble to compare the earnings of the various unities with his own company should have been able to foresee the market course of the stock. One hundred dollars invested at that time would have purchased on the part payment plan, four shares of stock. Today, these are worth over $1,200, and all the dividends during that time would be "velvet." As the stock increased in market value, holdings could have been increased, so that it is possible to figure a profit of about $3,000 on the original investment.

It is an unfortunate fact, however, that the list of stockholders in this holding company shows less than 3 per cent of actual employees of the various companies holding these securities. The average man is too busy earning money to think about investing it, but in neglecting this he is doing himself an injustice. Money in the bank may be all right, but the difference between having it there and having it invested in good securities is the same as the difference between burning an old style carbon lamp at 4 wpc. and burning a drawn-wire" Mazda." In both cases the problem is one of efficiency.

DOLLAR IDEAS

For Off-Peak Heating Business

ROY C. DWYER

Manager Mountain Home Electric Company, Ltd., Mountain Home, Idaho

Sooner or later the central station will have to meet the issue of lower rates on domestic heating business. Why not make it sooner and control the situation by running a separate circuit to two or three rooms with a double throw switch, the heating circuit on one side and the lighting on the other? Of course, in a great many cases this feature would be objectionable, but on the other hand the lower rate would in all probability bring in a very interesting day load.

Electric Vehicle Campaign in Boston

By L. D. Gibbs, Superintendent of Advertising The Edison Electric Illuminating Co., Boston

Five months ago The Edison Electric Illuminating Company of Boston began an extended campaign to boom the use of electric vehicles for business and pleasure throughout its nearly 570 square miles of territory, and incidentally throughout all New England. The program of the campaign was laid out with careful attention to every detail. In the first place, it had to be dignified, and then enthusiastic, persistent and extensive. To meet these requirements demanded a large appropriation, and, although the Boston Edison Company set aside $100,000 it is probable that this sum will merely "grease the ways," and that at least $200,000 will be required before Mr. C. L. Edgar, the President, and Mr. W. H. Atkins, the General Superintendent of the company, will feel that the field has been sufficiently cultivated so that the crop of sales can mature with the cultivation given by the local electric vehicle agents.

The initial opening of the campaign was made with a big meeting and dinner at the Hotel Thorndike in Boston, to which authorities on electric vehicles all over the United States were invited. Two hundred night letter invitation telegrams of 250 words each were sent out a week before the dinner. Two other conferences and dinners were held, at which the number present was more restricted, the idea being to get those most interested close together where they could "rub elbows" and "kick each other's shins" if they felt they had any grievances that should be explained and settled.

The result of these preliminary meetings and dinners, together with two big advertisements run by the Boston Edison Company in all the Boston papers, was to settle the "roily water of competition" and start the campaign with enthusiasm and harmony.

Up to the present time, four big advertisements have been run in the nine Boston daily papers. The first two, remarkable for their suggestion and reason why, were devoted to the general electric vehicle business. The third was devoted to selling talk about electric pleasure vehicles, and the fourth brought home the points in favor of electric trucks.

In the meantime, the Boston agents of electric vehicles were stimulated to engage in co-operative advertising. When the big advertisements of the Boston Edison Company appeared, a considerable number of the Boston agents ran advertisements (many of them at their own expense). A little later they developed the plan of using some one of the Boston dailies each week, and as many as could took advertising space on some given date. They tried to pick the best days for each paper. The papers have cooperated magnificently in this work, giving specially drawn headings with extended introductory reading matter, and have placed the time of their advertising men and their artists at the disposal of the vehicle agents and the advertising agents who have aided in the work.

The Boston Edison Company opened a garage on Atlantic Avenue which was specially sanctioned by the Electric Vehicle Association of America. This garage is conducted like any private garage; no special rules or special inducements are made to entice truck or pleasure car owners to use it at the expense of any other electric garage; that is, nothing is done to get business there which any garage operator of moderate means could not utilize.

The third of the conferences and dinners in the interests of the campaign resulted in the adoption of a large number of valuable suggestions:

In the first place, the agents coalesced into what is now known as the Electric Vehicle Club. They all meet Wednesdays in the Assembly Hall of the Edison Building where luncheon is served at 12:30 p. m. through the courtesy of the Boston Edison Co. The writer was made permanent secre-

tary, and the chairman of the day is chosen at the beginning of each meeting. Numerous committees to cover the general activities of the campaign were appointed as follows: Electric Signs; Co-operative Advertising and General Publicity; Location of Charging Stations; Rates in Different Places for Charging Batteries; Prospects; Arbitration and Neutrality; Co-operation with the Boston Edison Company; etc.

Arrangements have already been made for two large electric signs to be located, one at either side of the city on the main thoroughfares, which will read: "Use Electric Vehicles for Business and Pleasure." Plans are also under consideration for a big spectacular sign which will represent an electric pleasure vehicle driven by an attractive lady and going at top speed along the highway. This view will be replaced in the next change by an electric truck speeding with its load along the way. Provision will be made in connection with this sign for suitable advertising copy.

The Boston Edison Company has provided several hundred pennants bearing the legend: "Use Electric Vehicles for Business and Pleasure," for use on electric vehicles in the Boston territory. These are now a conspicuous form of advertising.

A map has been provided on which the locations of the various charging stations in New England will be indicated as fast as these are determined.

The Committee on Rates for Charging has been investigating the conditions at the garages and available places for charging sets to determine if the rectifiers are hooked up properly and if those interested are doing business under the best conditions, not only for themselves but for the customers.

A mighty important feature of this campaign is the investigation and study of the whole electric vehicle situation that is being made, and will be continued for a long time, by the Massachusetts Institute of Technology and under the immediate supervision of Prof. Dugald C. Jackson. The Boston Edison Company, at the opening of its campaign, arranged with the M. I. T. to take up this work. It was agreed that one great weakness in the development of the electric vehicle business has been the lack of information in the operation of electric vehicles—in fact, vehicles of all kinds—that could be regarded as absolutely unprejudiced. No institution is in a better position to collect such data than the M. I. T. The work will be thorough, the conclusions unbiased, and the confidence inspired enormous. This work has already been under way for some time. A representative of the institute is making an extended tour of the country, investigating all phases of the situation, and will bring to bear upon it, not only the skill and analytic ability of the scientist, but the broad view and intuition of an experienced man of business.

The results of this campaign have already been remarkably satisfactory. The sales of electric vehicles for business and pleasure have more than doubled, the agents are clamoring at the doors of their factories for cars, and every effort is being made by the builders to get cars into the Boston territory rapidly enough to satisfy the demand. It would be unsatisfactory to talk of percentages of gain in sales, because some might compare it to the small grocer's 100 per cent increase on the total sales of $5 of the previous day, inasmuch as there have been but few electric pleasure cars, at least in the Boston territory, up to this year. They are coming, however, and coming fast. The commercial vehicle field is better developed. It has a good two years' start over the pleasure vehicle end of it. The final results of this campaign must, however, result in the opening to electric vehicles of a field, the possibilities of which have never before been fully realized; and the Boston Edison Company's officials will certainly always find it a source of congratulation that they went into it at the psychological moment.

SELLING ELECTRICITY

AUGUST, 1911

ELECTRICAL MERCHANDISE

The principle that things which are sold are merchandise and the seller a merchant, is one which has had slow acceptance in the electrical industry.

The central station maintains a "display room" in which "solicitors" are employed to "demonstrate" electrical appliances, which are sold at or below cost. The contractor maintains an "office" in which a "helper" is employed to "wait on" customers who desire fittings and electrical material, which are sold for any price at all. In both cases, the venders are merchants and their wares are merchandise. Then why not recognize an obvious truth and profit thereby?

At the National Electrical Contractors' Convention at Niagara Falls, was read a paper entitled "The Electrical Contractor as a Merchant." The principles and logic of that paper would apply equally were they addressed to central stations. Until the truth is realized that electrical appliances are exactly in a class with hardware or house furnishings, until we realize that the current-consuming devices we sell and the fittings which facilitate their use are no different, from a merchandising standpoint, from coal-consuming or ice-consuming or gas-consuming devices and accessories, we are going to make paralytic progress in the popularization of electricity.

We believe that the time is ripe for injecting some real intelligence into this appliance problem. We believe that the solid business ethics of John Wanamaker and Marshall Field can be adopted to the very great benefit of the industry. Heretofore, the methods employed in the display, advertising, pricing and sale of electrical merchandise have not been of a sort to inspire popular respect or develop healthy, permanent demand.

We believe something can be done to improve this condition. In future issues of *Selling Electricity* we are going to try to do it.

BREADTH

The quality that distinguishes the big man of today is breadth. We speak of him as broad-minded, broad-guaged, as having perspective or breadth or vision.

Breadth is a quality that comes with years, generally, but it can be cultivated. Most young fellows think that only the big men can afford to be broad-guaged, but as a matter of fact, the thing works with a reverse English, because few but broad-guage men get to be big men now-a-days.

Breadth consists in being intelligently unselfish. It consists in gambling upon the good in human nature instead of the evil. It consists in avoiding friction, sacrificing a bit to the common good and accepting Emerson's law of compensation as a workable doctrine.

As an example of the quality of breadth, particular attention is called to the item "Free Fans for Invalids,"

printed on another page. Mr. Arthur S. Huey, the author of the idea, is no weakling worker for the uplift of mankind. He is a hard-muscled, two-fisted, keen-eyed business man. But he knows that the right kind of bread cast upon the right kind of waters returns in the shape of dividends.

Of course, there are those who will say the plan is a cheap bid for notoriety, just as there are those who will say that it is an extravagant bit of charity. Both opinions Mr. Huey can afford to disregard for they show a lack of the very thing which inspired the idea—breadth.

STATISTICS WANTED

What effect has poor artificial light upon the efficiency of a factory operative?

If there is no light at all, this efficiency is nil; if there is perfect artificial light the efficiency is the same as or better than in daylight. But what effect has poor or indifferent light upon a factory output?

This question, or similar questions, were asked by the Committee on Heating, Lighting and Ventilation of the National Association of Manufacturers and it developed that statistics on the subject are entirely lacking.

The electric lighting industry should secure such statistics at once. Industrial lighting offers a large field for development, but the field cannot be developed fully nor rapidly without recourse to the kind of arguments which will appeal to the factory owner or superintendent.

The factory owner is interested in profit. If good light is materially cheaper than poor light he will have it; if it is more expensive, he is not interested unless there are collateral benefits which can be translated into terms of dollars and cents.

Right now we have an opportunity to present the human efficiency argument, and we should not let the opportunity slip. We should have accurate data on the effect of illumination upon output, quality of product, percentage of time wasted because of poor illumination, accidents due to insufficient illumination and the attitude of labor towards good and bad lighting.

Keen manufacturers realize that adequate illumination is a factor in the operation of their plants, but they have no data to show in percentages or in dollars what this factor amounts to. Many of them are content to make the investment in improved lighting equipment "on general principles," but that is a weak foundation upon which to build any considerable business.

The class of industrial plants which use central station current, especially, need accurate data, for these are generally the smaller manufacturers and economies that are measured in fractional percentage or arguments based on "general principles" do not appeal to them strongly.

It should be no such difficult matter to get this data if the central stations would work together. Practically every member of the N. E. L. A. Commercial Section can secure the data on a single plant. If this data were placed in the hands of the Committee on Industrial Lighting of the Commercial Section it would aggregate such a mass of exact facts and figures as would make the solicitation of industrial lighting a cold matter of statistics instead of a subject for argument.

Free Fans for Invalids

A plan which should have wide publicity because it serves more than one good purpose is that of Mr. Arthur S. Huey of the Byllesby interests, which provides free electric fan service for invalids.

On June 29th, Mr. Huey addressed the following circular to the managers of the various electric utilities under his jurisdiction:

Gentlemen:

It is desired to place in effect at once at all our electric properties the furnishing of free electric fan service in summer to all invalids who can be reached from our present lines and whose physician certifies to the desirability of the service and to the financial inability of the patient to secure the same.

Wherever necessary you are authorized to run service wires, install sufficient interior wiring, loan fans and supply service gratis to accomplish the objects desired.

Kindly arrange to send out immediately to all physicians in your city a letter similar to the form attached. Also transmit a copy of this letter to each of your newspapers and explain the plan to the editors and our motives—which are charitable in their nature and based on the knowledge that the use of electric fans often exerts a pronounced influence toward the recovery of those seriously ill.

Please acknowledge receipt, advise if you fully understand and report to me personally each month how many persons take advantage of this offer.

Yours truly,

The enclosure referred to was addressed to physicians by the local managers, and reads as follows:

Dear Sir:

I beg to inform you that during the remainder of the summer we wish to place, without charge, electric fan service at the disposal of every sick person who (or whose family) is unable to pay for the fan and service, and whose sickroom can be reached from our present distributing lines.

We ask only that you certify in writing to the desirability of fan service from a medical standpoint and to the financial inability of the patient to secure the same; also that you notify us when the necessity of the service has ceased.

If the house is not wired we will run service wires and install sufficient interior wiring to operate the fans, loaning the latter as long as may be required in your judgment.

Assuring you of our desire to co-operate with you, we are

Yours truly,

It is yet too early to secure any data as to the cost or benefits of this offer. The benefits, of course, will never be fully known, but it is safe to say that the company which is willing to so aid in the amelioration of suffering will not go unrewarded, that the doctors and the patients and the patients' families will be the first to pin the "anvil chorus" when some newspaper or political demagogue attempts to make capital of the "soulless corporation."

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171 Dead Horses a Day

While the recent hot spell in New York was more severe than usual, the deaths of work-horses due to the heat during those six days is a very strong argument in favor of the electric commercial wagon.

The health department of New York City, which has the task of removing dead horses, reported that during the six working days of the hot spell 171 horses died each day—a total of 1026.

These horses represented over half a million dollars cash value, which was entirely wiped out in a single week.

In addition to this, the horses not affected fatally were able to work at scarcely half their normal capacity, and fully 25 per cent of the drivers' time was consumed in staving off sun-stroke by frequent applications of water and frequent rests in the shade.

It is estimated that the money represented by the horses which died would pay for a sufficient number of electric vehicles to do all of the work done by the horses, and do it more efficiently and economically.

In New York City, where it is estimated that there are in the neighborhood of fifty thousand draft horses, not less than 4 per cent die annually from the effect of heat in summer and slippery pavements in winter. This million dollar annual loss is in addition to the normal deaths, and represents a tremendous increase in the cost of horse-haulage.

The Manufacturers

Electric Signs on the Sidewalk

A new field for display advertising is opened up by a recent invention known as the Electric Sign Projector, which is manufactured by the Pittsburg (Pa.) Electric Specialties Company. This apparatus throws a sign in letters of light on the sidewalk, a choice medium in which the cost of rental is eliminated.

The construction of the projector is quite simple; the essential features

being a powerful little lamp, three lenses and a stencil containing the advertisement. The lamp is of the Nernst glower type, 100-candle power, and operates on the regular lighting circuit, 110 volts, with either alternating or direct current. The lenses, glower and stencil are in a metal tube 14 inches long by 2 5-8 inches in diameter, and separated at the lamp end to admit the insertion of a small globe which furnishes light for illuminating the window in which the projector is placed. The outfit is completed by a pedestal for the tube to rest upon. The advertisement as it appears on the sidewalk is slightly elliptical, owing to the angle from which the light is projected, and varies from 3 1-2 feet longest diameter up, according to the distance of the projector above the sidewalk. While primarily intended for sidewalk advertising, the projector may be used for throwing advertisements on walls and ceilings, and has been effectively employed for this purpose by department stores in announcing special sales.

Public Utility Securities

The firm of Russell, Brewster & Company, brokers, of Chicago and New York, has for years specialized in the stocks and bonds of first-class electric light, power and telephone companies. Central station men are gradually learning to put their savings back into these securities, which besides being both safe and profitable from the investment standpoint, are in line with their general work.

Messrs. Russell, Brewster & Company are one of the oldest and stablest brokerage firms in the country, being members of both the Chicago and New York Stock Exchanges. The particular study which they have given to public utilities securities places them in a position to give the investor the best of advice on this subject.

Electric Companies Merger

Announcement has been received by the trade of the merger on June 1 of the Fort Wayne Electric Works with the General Electric Co. of Schenectady, the business now being conducted under the name of the Fort Wayne Electric Works of GeneralElectric Co.

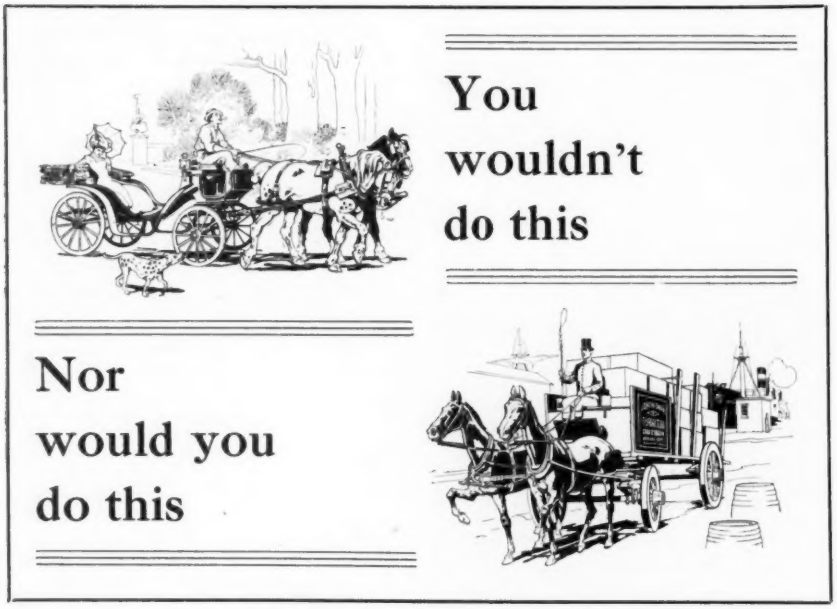
The offices of the company will be continued as heretofore with Mr. F. S. Hunting as general manager.

Inverse Advertising

The necessity of a square plug for a square hole in battery design is being hammered into electric vehicle users by a series of very "horsey" advertisements emanating from the Gould Storage Battery Company. The illustrations are designed to catch the eye by some incongruity and the same idea could easily be elaborated to fit central station publicity. Some samples are reproduced on this page.

The large cut indicates the absurdity of putting a truck horse in a runabout and vice versa and the advertising talk that is used with it enlarges on this text from a battery standpoint. The smaller cut shows a truck horse starved down to carriage size, which it is claimed the Gould high capacity battery isn't. And so on throughout the series.

There are some other good points to the Gould battery besides the fact that it is made in different types for different services, but by getting the reader's attention on this side the advertising holds him for the rest of the argument. Very little change in the cuts would show two great advantages of the electric over the gasoline car for family use (the safety and ease of running) and with this brought home the economy, convenience, durability and other advantages could be played up with good effect. Many things are being done wrong in factories today that could be ridiculed in a similar manner for the benefit of the power load. There is also a fertile field for this sort of exaggeration in the domestic operations of washing, ironing, sweeping and so forth, line drawings and cuts are cheap and the evening newspaper is on the job.



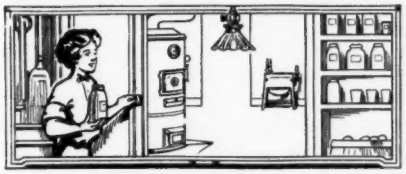
Heading of a Gould Storage Battery Advertisement

One of the Gould Battery Series

New Holophane Ad-Book

Ad-Hints—A Little Booklet of Advertising Inspiration is the title of a pamphlet recently issued by the Holophane Company, of Newark, O., for distribution among central stations and contractors to be used as suggestions for their local newspaper advertising.

The book contains ten electric lighting advertisements, with appropriate cuts, and is prefaced by a number of short, pithy ad-hints, such as:



Is your house *really* lighted from top to bottom or do you still have to take a candle or lamp when you go to the attic or cellar at night?

A great many people who have electricity in the rest of the house have no light in cellar or attic because it is seldom needed, but—when you do need it you need it badly.

One incandescent lamp set in a Holophane Reflector will give sufficient light for the darkest cellar or attic. Holophane Reflectors are especially adapted to lighting places of this sort as they control the light rays so that every ray is utilized. Wouldn't it be a convenience if you could turn a switch and light your cellar or attic before entering? That means an end to dangerous matches and flames—it means that you no longer need stumble against misplaced boxes and bark your shins in the dark

We would like to tell you more about electric lighting and more about the wonderful light-saving Holophane Reflectors. May we send a representative to see you?

(Imprint)

Newspaper Ad No 30
Holophane Company

Type used—24 pt. Caslon Old Style
12 pt Scotch Roman

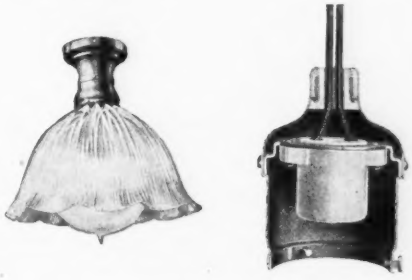
"If you want to know how bad your company's advertisements are, read two or three of them aloud to your 'best girl,' or the chauffeur, or a foreigner, or try to explain them to the baby. However, do not try this experiment unless you are feeling very, very strong."

The ads, which were prepared by The Rae Company, each deal with the lighting of some part of the home, from the front porch to the garage or barn, and are arranged for either single or double column display. The Holophane Company supplies electrotypes without charge.

A Universal Holder Socket

To obtain scientific illumination, it has always been necessary to obtain the proper relation between lamp and reflecting surface. On account of the different lengths of bases in Mazda lamps, it has been necessary to attach

several kinds of holders to a regulation Edison socket. The reflector in turn was suspended from the holder. A holder-socket that takes the place of both socket and shade-holder, and is at the same time a fixture suitable for use in single unit illumination, has recently been perfected by W. C. Hines of Cleveland, Ohio, and placed on the market by the Adams-Bagnall Electric Company of Cleveland. They have applied the principle to commercial and industrial lighting units which they are putting out under the trade name "ABolites."



The ABolite provides a metal support for a reflector which replaces the variable holders now in use. This is effected by means of a patented "positioning device" attached to a porcelain receptacle. When this positioning

yoke is thrown downward the lamps and reflector are in the position obtained by the use of "Form O" holders. When thrown upward, the position of a regular "Form H" holder is obtained. These positions are of course only necessary and possible in ABolites designed for reflectors taking the 2 1-4-inch holder, and lamps from 25 to 100 watt. A holder is also made for larger lamps usually requiring "Form A" holders.

Briefly outlined, the salient features of the Industrial ABolite are: The positioning device provides for "O," "H" and "A" positions. All separable holders are eliminated, making one holder socket universal for all lamps, from 25 watt to 500 watt, inclusive. All weight is suspended from the holder socket itself. The reflector may be removed for cleaning without breaking any wire connections or disturbing the holder socket already in place. Intensive and extensive illumination may be obtained with the same ABolite by simply changing the positioning device. Larger or smaller units can be substituted for those in place without touching the holder socket already in place.

With two pendant and two ceiling ABolites—one for each size—practically all single light illumination requirements on lamps from 25 watt to 500 watt can be taken care of. This is an advantage to dealers, as it does away with the necessity of carrying a large stock of fixtures and accessories.

A department of Efficiency Engineering has been established by the Adams-Bagnall Company for the purpose of studying industrial conditions with a view to improving illumination efficiency.

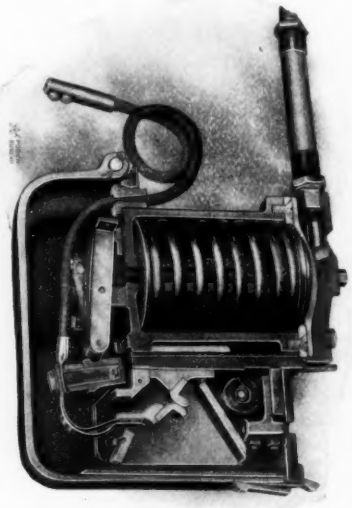
An Electric Talking Sign For Havana

The Wall-Win Company of Jersey City have shipped to F. Perez, of Havana, Cuba, an electric talking sign which will be erected on a building facing Park Central in that city. The sign is 45 feet in length by 30 feet in height, and contains 60 24-inch Mason Monograms in four lines, 15 on each line. The border is of a fleur-de-lis design, in red, green and white lamps. The sign will take in all 1,800 four-candlepower lamps.

The shipment, which included iron for the framework, connecting cable, switches, fuses, etc., required 34 cases and 10 barrels, besides 37 bundles of iron and a reel of cable. It is planned to use the sign for advertising a number of different firms, as in the case of the Chariot Race sign, in New York City.

Air Compressor Outfits for Garages

Electric motor-driven air compressors furnish an ideally efficient method of inflating tires, and also are available



for cleaning the upholstery and machinery of the cars. Those made by the General Electric Company are designed to operate on any standard voltage or frequency and are suitable for use in garages, car barns, or factories where small amounts of compressed air can be used advantageously.

The types of compressor outfit most suitable for garages are designated CP–27, CP–28 and CPI–28. The compressors consist of two horizontal cylinders geared between the cranks, and are of the single-stage, single-act-

ing type. The valves are tubular, one intake and one discharge valve being located in each cylinder head, and the intake air passages so arranged that the incoming air is passed through an air strainer. The clean filtered air thus, utilized eliminates all troubles resulting from dirt-clogged tire valves.

The normal maximum working pressure is 90 pounds per square inch. If required, however, they can be operated up to 100 pounds. If it is necessary to run at 120 pounds, the compressor should not be operated over 33 per cent of total time and not more than 20 per cent at a time. The motors are designed for intermittent service and are rated on the half time basis (5 minutes on and 5 minutes off). They drive the compressors through herring-bone gears.

Lubrication is automatic, the positive action of the oiling system delivering oil continuously to the bearings and all working parts. A standard tank 18 inches diameter and 60 inches long (8.5 cubic feet) is recommended and generally furnished with these outfits for garage work.

The air compressor is regulated by means of a governor, which automatically stops the compressor motor when the desired pressure has been attained, and starts it again whenever the pressure falls below a predetermined minimum. These governors provide a very superior current interrupting device. The thick rubber diaphragm entirely eliminated the friction and leakage usually experienced with pistons provided with packing rings, and obviates the difficulties due to the condensation and freezing of moisture, which always occur when there is any flow of air through the governor mechanism.

Accurate adjustment for various maximum pressures within the range of the governor can be readily obtained by means of the adjusting screws provided for that purpose. The difference between the opening and closing pressures is ten pounds. Governors of either type are available for any desired pressure. The standard spring has a range in cutting-out pressure of 65 to 100 pounds per square inch. A heavier spring can be furnished if desired.

Each compressor is provided with a safety valve for protection against excessively high pressure which might result from accident to the controlling apparatus. This valve is similar to the pop safety valve used in steam practice, and unless otherwise specified, is adjusted to open at 100 pounds. The release pressure can be readily varied, however, as conditions may require, by means of an adjusting screw located in the upper part of the valve.

POSITIONS OR MEN WANTED

The rate for "Positions or Men Wanted" advertisements of forty words or less is one dollar an insertion; additional words, one cent each; payable in advance. Remittances and copy should reach this office not later than the 15th of each month for the next succeeding issue.

Replies may be sent in care of Selling Electricity, 17 Madison Avenue, New York City.

DEMONSTRATOR WANTS POSITION. Four years experience. Electric and gas. Care of Selling Electricity, 17 Madison Ave., New York.

Electric Features OF THE UNDERWOOD STANDARD TYPEWRITER

Appear in the following models:

Underwood Automatic
Typewriter Operator
Underwood Typewriter
Adding Machine
Anderson Carriage Return
Underwood Computing Machine

The Machine You Will Eventually Buy

UNDERWOOD TYPEWRITER CO.
(Incorporated)
Underwood Building, New York

FEDERAL

"Watch the Teddy Bear Dance"

Is a Byword in Baltimore

It's a Federal Sign
That's the Reason

Central Stations having customers who want unique designs in sign advertising should write today.

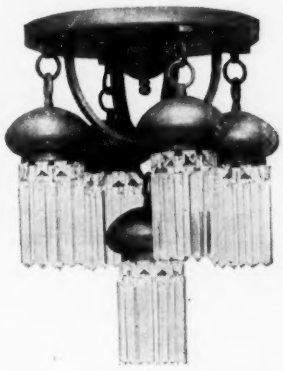
Get our Bulletin No. 233

Federal Sign System (Electric)
501 Home Insurance Bldg.
Chicago

Beardslee Designs

"All kinds for all purposes"

This slogan indicates the variety of our line.



Trade Mark

Will You Have Our Latest Catalog?

Beardslee Chandelier Mfg. Co.

The House of Quality

216 So. Clinton Street, Chicago

100% Load Factor

—the ambition of every station man.

You would like to get as near that as possible and you are now cultivating a day load among the customers you already have:—Good work! *Keep it up!*

At the same time you would not refuse **New Lighting Business** if you could assure yourselves from the start of a handsome revenue per kilo-watt of capacity tied up?

If you find you can get better returns by developing it into full electrical service afterwards, WHY, GO TO IT! By all means.

But get it connected up first!

There is plenty of this business in the territory covered by your mains, if you go after it right.

And our instrument will help you get *your* share of it.

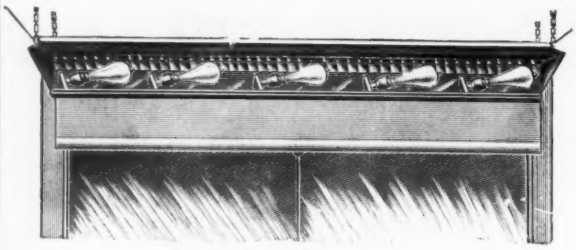
BUT DO IT NOW—

"You will never turn your wheels with water that has passed."

Don't forget this.

Henry Thermo-Electric Co.

3 Scott Ave. Newport, Vermont.



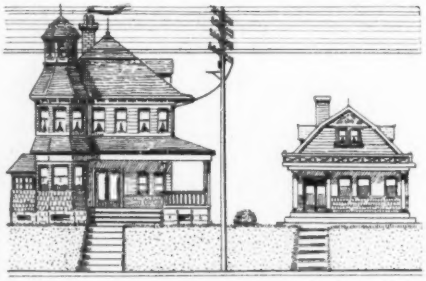
Show-case and Window Reflectors.

Will burn any lamp.
Easy to install.
Fit any show-case or window.
We make all kinds of up-to-date reflectors.

Write for prices.

The Lamford Sales Co.,
203 Broadway, New York

Profit For You Here



Undoubtedly you have secured the "cream" of the residence business in your territory.

But are you satisfied to stop there?

We have about forty central stations under contract with us and we are obtaining for them with our solicitors a large amount of small residence lighting business on a flat rate of 1 cent per watt per month in connection with Mazda lamps and Excess Indicators.

September is the best time to start such a campaign in your city and we are ready to negotiate with you along these lines.

Campaigns are conducted only in cities over 10,000 population.

Write for details and proof of our success.

EXCESS INDICATOR COMPANY
105 WEST 40th St., NEW YORK CITY

WHAT DO YOU THINK
About An *ELECTRIC IRON* In Which
YOU CAN REGULATE THE HEAT

We make them, and with a heating unit that is PRACTICALLY INDESTRUCTIBLE.

Our Irons are made in any size or weight, to suit any voltage, and to supply any range of heat.

GUARANTEED FOR ONE YEAR

Write for Information to

Dowdall Mfg. Co.
1358 Broadway, New York City

Factory, Glen Morris, L. I., N. Y.

In writing to advertisers, mention "Selling Electricity"

The September Issue of Selling Electricity will contain

Our Announcement

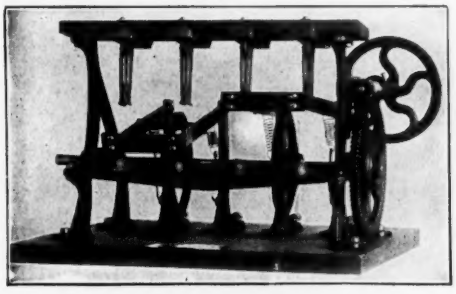
Watch For It!

If you wish to have *advance notice* get on our mailing list.

THE OPALUX COMPANY,

New York Boston Philadelphia Chicago Toronto

REYNOLDS KNIFE-TYPE FLASHER



No. 220. List Price $21.00.

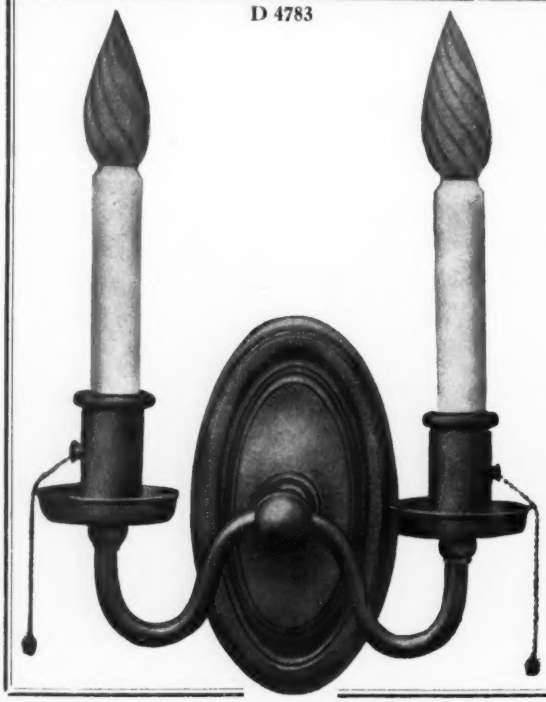
The best low price flasher on the market. Capacity fifteen amperes per switch. A thoroughly serviceable and reliable article, heavy construction, copper switches, steel worms and machine-cut gears.

We build everything known in the motor-driven flasher line. We have the small machines in stock and can turn out the largest combination machines for spectacular effects in from one to three days.

REYNOLDS DULL FLASHER CO.

16-20 FIFTH AVENUE, CHICAGO

D 4783



NO MATTER

what your lighting fixture proposition is, we will be glad to make suggestions.

Fixture Designs of any Price or Style on Short Notice

Dealers drop us a line so we can enter your name on our mailing list, and receive one of our new No. 17 Catalogues ready for distribution soon.

R. Williamson & Co.

Manufacturers of

Electric and Combination Fixtures and Art Glass Shades

Washington and Jefferson Sts., Chicago, Ill.

Over 1600 Electric Light Co. Officials throughout the United States have equipped their homes with

Thor Electric Home Laundry Machines

That's enough evidence to warrant you investigating this popular household appliance.

Wiring Contracts

The Thor Electric has been the wedge for opening thousands of homes to wiring. It appeals more particularly during the hot months. Send for catalog now, and post your solicitors.

HURLEY MACHINE COMPANY,

NEW YORK CITY — 1010 Flatiron Building

CHICAGO — 29 S. Clinton St.

We really should not show this picture of

IRIS

because the black-and-white reproduction does not do justice to "The Most Beautiful Glass Made in America." This wonderful glass is made in all colors, all shapes. It is distinctive because the designs, formed by overlays of color which fuse perfectly with the body and give the most wonderful effects of gleaming color-harmony, are as attractive when the shades are cold as when they are lighted. And there is a richness—"class"—to IRIS, which is not found in any other American product. It looks extravagantly expensive, but the prices are quite reasonable. : : : : :

YOU SHOULD KNOW ABOUT THE : : : : : :

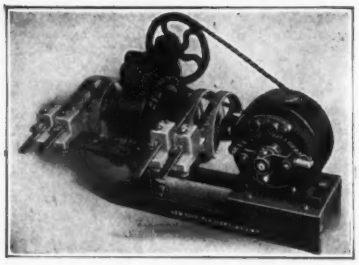
"Fostoria Plan"

We have worked out an inexpensive new business plan for central stations—a plan that **you** should try. We call it the "Fostoria Plan" and we designed it to help you to secure BETTER new business, especially to secure the wiring of old houses.

The Fostoria Plan is based upon the sale of IRIS, "the most beautiful glass made in America."

We want you to know the plan and we want you to know IRIS, so we are offering free a sample shade to every central station manager who answers this ad. Address

FOSTORIA
GLASS SPECIALTY
COMPANY
FOSTORIA, OHIO



No. 301 (1 switch 30 amp. D. P.) Patents Pending

Largest Mfgs. Electric Sign Specialties in the world.

New York FLASHERS

with the wonderful

NOARK PICUP BLOCK

Are Especially Adapted for Flashing Tungsten Lamps

Note Simplicity,—Compactness,—Durability

Why the Picture Speaks for Itself. Built in our own Factory by

ELECTRICAL ENGINEERING EXPERTS

Use COLOR CAPS on Every Sign

BETTS & BETTS

304 West 53rd St., New York, U. S. A.

Pacific Coast Office, Room 602, 1208 Broadway, Oakland, Cal.

This cut shows a double faced metal sign in which the letters are spelled one after the other while the flaming torch effect aids in attracting attention. Net price of this sign, 10 ft. long with 18 inch letters, flasher, motor and hanging materials, $140.00.

If interested in similar effects write for blue prints F. D. 1, F. D. 2, F. D. 3.

HALLER SIGN WORKS (INC.)

704 South Clinton Street, Chicago

The Ham Attachment

Most convenient wiring device brought out in the last decade

For sale by all jobbers

Patented November 17, 1903

E. W. HAM, *5 Barton Place* ***Worcester, Mass.***

Federal Sign System (Electric)

JOHN H. GOEHST, Pres. JOHN F. GILCHRIST, Treas.

Home Insurance Building, Chicago

Engaged in SELLING, RENTING and OPERATING ELECTRIC SIGNS and the SALE of ELECTRICITY CONSUMING DEVICES and SUPPLIES in nineteen cities, including Chicago, New York, St. Louis, Cincinnati, Philadelphia, Baltimore, Pittsburg, New Orleans, Buffalo, Kansas City.

We Offer a Limited Amount of **7% Cumulative Preferred Stock**

of the above Company at $100 PER SHARE and accrued interest with a bonus of 40 per cent of the Common Stock Voting Trust Certificates. Earnings largely in excess of dividend requirements. Majority of common stock held in voting trust, with

SAMUEL INSULL
JOHN H. GOEHST } Voting Trustees
JOHN F. GILCHRIST

The policy of the Company of encouraging the consumption of current, thus working in the interest of the Central Station Co. in each city in which it operates, is a great element of strength.

Circulars on Application

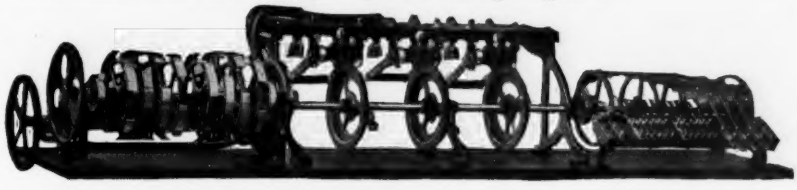
Russell, Brewster & Co.,

Bankers & Brokers

116 W. Adams Street CHICAGO — MEMBERS NEW YORK AND CHICAGO STOCK EXCHANGES — 111 Broadway NEW YORK

RECO FLASHERS

give Electric Signs **THAT SNAPPY APPEARANCE** which is appreciated by all live advertisers. Also saves nearly 50 per cent in lighting bills.



RECO FLASHERS produce almost any electrical effect—spelling, chaser borders, script writing, waving flag, and numerous others.

Solid construction, easy adjustment, self-oiling gears, minimum attention.

Reynolds Electric Flasher Mfg. Co.

Largest Manufacturers of Flashers in the World

Main Office and Factory, 617-631 W. Jackson Blvd., Chicago

1123 Broadway, New York

LOOK ahead a little way. You're trying to do all you can to build up the electric vehicle industry in your vicinity—because it's the best means of reducing your operating expense, building up you off-peak load and bringing home more profits. It's as much to your own as to your customers' interests to see that they get electric wagons that will give the most satisfactory service and *stay in commission*. That's why you should recommend

LANSDEN ELECTRIC WAGONS

Lansden Electric Wagons give greater mileage on a single charge of the battery than any other electric commercial vehicles made.

Their weight is less in proportion to their carrying capacity than that of any other electric commercial vehicle. The dead weight factor is reduced to a minimum through the use of the Edison Storage Battery and consequent lighter construction throughout.

The operating and maintenance cost is less, per ton, per mile, per package or per year than that of any other commercial vehicle—whether electric, gasoline or horse drawn.

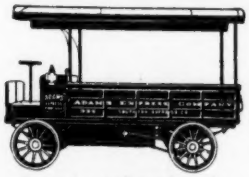
The most prominent firms in the country are using Lansden Electric Wagons—and in almost every instance, where one Lansden has been bought all subsequent vehicle purchases have been Lansden. The Adams Express Company alone has over 150 Lansden Wagons in service.

There are Lansden Wagons *in* service today, still operating on their original Edison Storage Battery equipment, that have been in service more than seven years. This is the kind of service your customers want and the kind that will bring profits into the central station and keep them growing.

WRITE US TODAY FOR FULL PARTICULARS

THE LANSDEN COMPANY,
229 High Street, Newark, N. J.

One of 4 Lansdens in Steinway's Service



One of 150 Lansdens in Adams Express Service

One of 10 Lansdens in Abraham and Straus' Service

The Edison Storage Battery is doing more to build up the electric vehicle industry than anything else. It has made good in both the pleasure vehicle and the commercial vehicle fields —and that means that it is making good for you.

The electric vehicle industry is the biggest factor today in reducing operating expense, building up the off-peak load and bringing home the profits to the Central Station. It has taken a bigger jump forward within the past three years than in all the rest of its existence,—and the

Edison Storage Battery

is the reason.

With practically double the capacity, double the mileage, none of the trouble and only a fraction of the expense of operation and maintenance, the vehicles that go on the road equipped with the Edison Storage Battery are the vehicles that *stay* on the road, year after year and every day in the year—and that's where you come in.

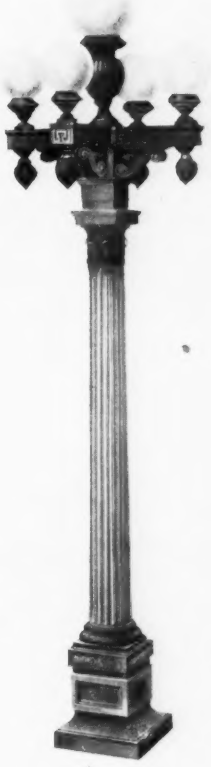
The Edison Storage Battery is "first aid" to the Central Station —and it's up to every Central Station man to drive home a good word for the Edison whenever opportunity offers.

Edison Storage Battery Company

123 Lakeside Ave., Orange, N. J.

Corinthian Standard

Design Patent 39759



Imitation

It is said that imitation is the sincerest flattery. Well we have more than our fill of flattery. Flattery has its place, but when imitators try to deceive, we have flagrant imposition.

Do not be deceived, the *real* Corinthian Standard is made by the FLOUR CITY ORNAMENTAL IRON WORKS.

Flour City Ornamental Iron Works

Minneapolis, Minnesota

GET IN LINE FOR FALL

It's Hot Now, But Soon the Industrial Lighting Season Will Open

ARE YOU READY?

The Holophane Company will soon have a number of new improved Reflectors for Industrial Lighting Service ready for the autumn campaign. Now is the time to prepare for this profitable business.

If you wait until the season is open, you will find that more progressive and fore-handed contractors are ahead of you.

We want to co-operate. Write.

HOLOPHANE COMPANY

Sales Department:

Newark, Ohio

New York Boston Philadelphia Chicago San Francisco London, Eng.

Holophane Company Ltd., 62 Front Street, W., Toronto, Canada

In writing to advertisers, mention "Selling Electricity"

Extending the Field of Electric Service

Last month G-E Fans, Heating Devices and Sewing Machine Motors were advertised in 8,000,000 copies of two dozen well known magazines. The advertising this month is equally extensive.

G-E Fans are advertised in 3,000,000 copies of McClure's, American, Everybody's, Munsey's, Review of Reviews, System and other nationally known magazines.

Advertisements of the G-E Electric Range and Disk Stoves are appearing in 4,000,000 copies of Collier's Weekly and others.

One of the reasons why so many magazines are used is much the same reason that Carnegie gives for not "putting all your eggs in one basket." But there's a bigger and broader reason. The right kind of advertisements in the right class of magazines reach the right class of buyers.

Inevitably this national publicity will broaden the entire field of electric service by popularizing the use of electricity for many purposes in addition to lighting.

The central stations and dealers who profit most from this advertising will be those who profit first, and the first to benefit will be those who co-operate now by pushing the sale of these products in their own localities. Upon request the General Electric Company will continue to supply these "progressives" with result-getting newspaper advertisements, booklets, folders, wall hangers, and other printed matter for this purpose.

General Electric Company

Schenectady, N. Y.

3154

VALENTINE

Rents
Electrical
Display
Material

for Festivals, Conventions,
"Old Home" Weeks, Street Fairs,
Reunions, and all Civic Celebrations.

The success of a city festival nowadays, depends more than half upon the Electrical display.

The success of the Electrical displays depends upon their being *skillfully* designed to secure the maximum *effect* within a *reasonable* cost limit.

VALENTINE has for several years maintained a separate *department* for handling temporary display material. Beginning modestly, the business and facilities for handling that business have grown until today this Company has the most complete assortment of special display equipment in America.

The material includes hundreds of spectacular features, fraternal insignia, temporary signs, waving flags, etc., as well as standard festoon in all colors.

Practically all the big recent celebrations including the Presidential Inaugural at Washington and the Hudson-Fulton celebration in New York have owed much of their spectacular success to **VALENTINE.**

When that festival is held in *your* city, let **VALENTINE** co-operate with you. Tell us what you want to do and we will tell you how best to do it.

Valentine Electric Sign Company

Atlantic City, New Jersey